

FIFTY-EIGHTH ANNUAL REPORT  
*of the* BOARD OF TRUSTEES *of the*  
OHIO STATE UNIVERSITY

TO THE GOVERNOR OF OHIO

FOR THE YEAR ENDING JUNE 30, 1928

1928

MCMXXVIII  
THE OHIO STATE UNIVERSITY  
COLUMBUS, OHIO

THE OHIO STATE UNIVERSITY

HONORABLE A. V. DONAHEY, *Governor of Ohio, Columbus, Ohio:*

MY DEAR SIR—I have the honor to present to you the annual report of the Board of Trustees of the Ohio State University for the year ending June 30, 1928, as required by law.

Yours very truly,

JULIUS F. STONE,  
*Chairman Board of Trustees.*



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## ANNUAL REPORT OF THE PRESIDENT

HONORABLE JULIUS F. STONE, *Chairman of the Board of Trustees, The Ohio State University:*

DEAR SIR—I have the honor to present through you to the Board of Trustees of the Ohio State University for transmission to the Governor of Ohio, as required by law, the Fifty-eighth Annual Report of the Ohio State University for the year ending June 30, 1928.

The extracts from the reports of the several colleges will appear hereinafter, as usual, and the opening pages will, as usual, contain a summary review of the progress of the University and the chief aims pursued in its activities.

### FRESHMAN PROBLEM AND PROGRAM

The faculty continued with enthusiasm the study of our methods of dealing with the freshmen, and gave hearty approval to the experiment designated as "Freshman Week." The procedure, and the results so far as possible, were carefully appraised in a report presented by the Freshman Week Council and distributed to all the members of the faculty. After careful consideration the faculty voted to continue the "Week" in the Autumn of 1928, and gave the most significant evidence of their faith by generously pledging voluntary service, for that period, of 60 per cent of the members of each department, so far as needed for carrying out the program.

The Board of Trustees renewed the appropriation and the same Council is again at work on a program of activities for the freshmen which will show the effects of experience in the Autumn of 1927 and of much further study by the Council. The diligence, enthusiasm, and fine common sense of Professors F. C. Lumley, H. E. Burt, and C. W. Reeder in performing the great volume of pioneer work demanded by this service and the splendid participation by the faculty are choice expressions of University spirit.

"Freshman Week" is a part of the general movement to improve the methods of dealing with the beginning student, and his scholastic experiences have been under investigation by a general committee and numerous subcommittees, all working on what has come to be freely designated as the "Freshman Problem."

The general committee was composed of Professors V. T. Thayer, F. C. Lumley, H. W. Kuhn, W. L. Evans, and C. F. Wittke, and it has had the support and participation of thirty faculty members on six subordinate committees, and of the general faculty as well. The study has proceeded enthusiastically and with the sole purpose of determining how we could best improve the University's dealing with these beginners, since this is one of the most vital questions which we must answer; it is futile to discuss curricula and upper-class work and methods and requirements unless we first assure ourselves of the treatment we accord the first-year student. The skepticism on that point is amazing, and there is a feverish effort generally observable in University circles to do the freshman year differently!

Different programs are being pursued in the various Universities; and our own faculty, upon committee recommendation, is committed to the creation of



the office of Junior Dean in the colleges having the heaviest enrollments, namely, Agriculture, Arts, Commerce and Administration, Education, and Engineering.

The Junior Dean is to be a college officer and in general is to use all the means and agencies at hand to enable the freshman student to help himself—operating not as an “all-wise guide” but as a beneficent counselor and educational adviser assisting the student to appraise his own capacity and tendencies, lending intelligent aid in the student’s process of “self-discovery.”

The suggestions for activity for the Junior Deans are very broad and rather flexible, as they should be for guidance in a new enterprise, and are copied herewith from the report:

(1) Ascertaining as soon as possible the desire of the student with regard to his curriculum of study and advising him as to the best sequence of courses to reach that end.

(2) Studying the University record, high school records, intelligence record, health records, and other available data regarding students, with a view to advising with students regarding their future status in the University.

(3) Cooperating with all departments interested in gathering and coordinating data which will enable departments to program students on the basis of ability, and to organize special sections for superior students, honor students, and the like. (Toward this end, there should be gathered and made available for general use data bearing upon intelligence records, university records, high school records, and other matters. Likewise it is particularly important to establish cooperative arrangements with secondary schools that will make possible an intelligent understanding of students upon their entrance at the University.)

(4) Providing for the needs of superior students both by devising ways of accelerating their progress, and with the cooperation of interested departments, through enriching the curriculum for these students.

(5) Instituting where possible remedial instruction for the deserving and excusably slow or retarded students with a view to reducing within the limits of reasonableness the present percentage of elimination.

(6) Stimulating organizations of students and others which shall foster intellectual interests both of a curricular and extra-curricular character.

(7) Supplying students with information and advice in the way of educational and professional opportunities.

(8) Providing through appropriate courses, departments, or agencies for information and guidance relating to physical and mental hygiene.

(9) Considering recommendations for improvement in courses and curricula open to freshman and sophomore students and recommending the same to the appropriate college faculty for action.

This enumeration of activities for Junior Deans indicates that we are entering upon a field which has had little attention here but which the University Community expects to result in great good for the new student. The whole purpose is to individualize as far as possible the attention given to students at the time of their greatest inexperience and thereby arouse all the latent energy and unexpressed inclinations and determination to embark upon a successful educational experience. In many cases it is not the inability of a student which causes his failure so much as it is lack of understanding of University aims and processes, and that stimulus which a superior teacher can give to the student arouses his enthusiasm for the work. This proposed plan also renders it possible to enable the gifted student to make such rapid



progress as his talents justify. The search all the time will be for students of ability and for the means of enabling them to go on rapidly. At the same time the Junior Deans will be giving careful study to the quality of the teaching, the courses of study, their content, and the manner of presentation; and the knowledge and experience gained in one college will be presented to the Junior Deans from the other colleges so that the general level of accomplishment with the Freshman in all these colleges will be raised.

Verily, this is a large order, but it is exactly what must take place if the big University is to justify its methods, nay even its existence! These Junior Deans will be enthusiastically at work in the next Autumn quarter, and through periodic meetings it is expected that the experience met in any one college will be worked over and inure to the benefit of the several colleges. We are frankly engaging in a laboratory experiment with the fresh human material.

As the accomplishment of the freshman and sophomore is bettered thus, so will the quality of the effort of the junior and senior be improved. The University must keep in mind at least two aims; namely, that every student should receive all possible attention to enable him to make his greatest development, and also, when it becomes evident that a student has not the native ability to accomplish the college course, he should be clearly but sympathetically informed of that fact and his connection with the University should cease. The social effects of failure are terrible, but when the University has put forward every effort for the training of the student and the student is unable to respond and make progress, this fact must be faced and the social effects endured. Extreme care must be exercised, however, in reaching the conclusion that a student can profit no further by the instruction of the University.

Various other agencies are also engaged particularly in aiding the freshman to find himself socially and to analyze his tendencies for this, that, or the other trade or profession, or what has been popularly called the "choice of a career." The University through these various methods and agencies is endeavoring to meet the solemn obligation imposed upon it, by the assumption of the business of educating the youth of the State; society is sensitive and has become greatly exercised because of the gaping deficiencies manifested by educational methods under recent searching analysis.

An active interest was displayed in the methods of teaching and supervision used by the departments, and some enlightening and stimulating meetings of teachers were held. Only good can come from these mutual portrayals of methods and technique, and it is hoped that proper occasion may be found at intervals for continuing them. There is a general spirit of pedagogic inquiry abroad in the University, and an evident intention to improve the performance wherever it may be found inadequate. This fearless self-appraisal could be undertaken only by an institution which is genuinely alive.

The University has been able to extend for next year considerable financial aid in the teaching of the lower classmen and the interest of every department of the University is focused upon this purpose. This does not mean, and it should not be construed as meaning, that the University has forgotten the upper classmen and the graduate work. No effort is being remitted in these regions of University activity. All additions to the University staff for the teaching of the upper classmen and the graduates are being made with the greatest care and no expense is being spared to add teachers of high attainment for this upper-class work.



It is generally admitted that the regimen for the freshmen has been the least effective and the most inadequate, and, therefore, the greatest pressure for reform has come in that region. There properly frequent emphasis is being given to the wants of this group of students. The need of more nearly individual and more intelligent dealing with the upper classmen has not been so urgent and has been forced to wait; but the attention to bettering the educational process for the freshmen has, at no time, meant that our effort in any other region of the University activities should be diminished. It will be kept in mind that in a state university of the dimensions of this one, uniformity in growth or purpose is practically impossible to maintain and the emphasis must be placed here or there most largely, depending upon the insistence or importance of the urge in this or that quarter. By striking out in one direction now and another direction later, the University makes progress, but that such progress should be smooth and uniform and harmonious is impossible.

#### RESIGNATIONS

During the year a number of resignations have taken place and several call for special mention.

Dr. B. R. Buckingham resigned from the directorship of the Bureau of Educational Research which he held from the organization of the Bureau. This Bureau is very largely the result of Dr. Buckingham's thought and activities during his six years, and he brought it to a position of importance in the educational scheme of the State of Ohio. The members of the Bureau undertook the study of many problems relating to education coming from various quarters in the State and have been rendering a most intelligent service in the solution of these problems and in furnishing inspiration which reached all corners of Ohio. The University would have been very happy if Dr. Buckingham had continued his services here, but an opportunity elsewhere presented itself which, in his best judgment, he felt he should accept.

He will be succeeded by Dr. W. W. Charters, of the University of Chicago, who will come to the work of the Bureau with long and varied experience, and will be able to go forward without interruption on the level which the Bureau attained under Dr. Buckingham.

Professor Vivian T. Thayer of the Department of Principles of Education has accepted a position in the Ethical Culture School of New York City, where he finds an unusual opportunity to do constructive thinking and organizing in primary and secondary education. He was rapidly becoming known in Ohio as a master in the field of Principles of Education as related to secondary education.

#### PHYSICAL EDUCATION

Dr. J. H. Nichols, who for fourteen years has been in charge of the program of Physical Education and in that time has brought this field of activity to the highest stage possible in view of the congested condition under which the work has had to proceed, has accepted an appointment at Oberlin College. In a way this is going back home for Dr. Nichols, and the opportunity offered there presented to him a very strong appeal. His high order of ability, his wonderful personality, his untiring efforts all gave him a place in the educational scheme and in the University Community of the greatest importance. The field of Physical Education is one of very rapid development, and Dr.



Nichols had the training and the vision to give him a great ambition in this work and to make his contribution to the field a striking one.

Dr. Frank R. Castleman, Professor of Track Athletics since 1914, is now in charge of this field of work; he has a thorough acquaintance with athletics, hygiene, physical education programs, and knows the literature of these fields and the people who are acting in them, and has the confidence of the University Community.

#### EMERITUS PROFESSORSHIPS

Near the close of the year two Professors who had given long service to the University were retired from active teaching with the title Emeritus Professor. One of the Professors, Frank A. Ray, is a graduate of the University of the class of 1887 and since the early nineties had been connected with the work of the Department of Mine Engineering. Through many years he was in entire charge of that work, and at one time was the Acting Dean of the College of Engineering and in later years was Consulting Director of the School of Mines. His life work has been in this field and he is well known wherever there are coal-mining interests.

Professor George Wells Knight was made Emeritus Professor of History and has retired from active teaching with that title. He came into the University in 1885 with the title Professor of History and English Literature, and was exceedingly active over this long period of forty-three years. He was successively Professor of History and Economics, History and Political Science, and Professor of American History. Then after serving for a period as Dean of the College of Education, he returned to American History, having continued as Chairman of that Department. In the recent consolidation of the departments of American History and European History, Professor Knight resigned the Chairmanship and finished his University teaching as Professor of History. His varied and active career is without parallel in this University, and recognition of his long service featured the program at the June Commencement.

#### DEANSHIPS

Dean C. O. Ruggles of the College of Commerce and Administration was on leave of absence for the year and resigned March 26 to accept a Professorship in the Harvard School of Business Administration. During the year Professor Walter C. Weidler has been Acting Dean of that College.

For almost two years the progress of the College of Law has been presided over by Professor Alonzo H. Tuttle as Acting Dean, and meanwhile a search has proceeded for a permanent Dean. This was successful at length and on June 11 the Board of Trustees elected to that position Dean H. W. Arant of the Law School of the University of Kansas. Dean Arant will come to the College of Law here with the record of academic graduation at the University of Alabama, and the Master's Degree and Bachelor of Law at Yale University. For six years he practiced law in Atlanta, Ga., and taught law in Emory University, and was then invited to come to Yale as Assistant Professor of Law where he taught from 1920 to 1922; he then went to the University of Kansas as Dean of the College of Law and has been serving in that capacity there for the last six years. His training, his accomplishments, his scholarly activities, and his personality fit him to a very unusual degree for this type of work, and he will come to the Deanship with the enthusiastic support of every member of the Law faculty.



The University is deeply appreciative of the sacrifice which Professor Tuttle has made in carrying on the duties of the Dean through these two years and of the fine service which he has rendered in that capacity.

In December 1926, Professor W. E. Henderson resigned as Dean of the College of Arts. Professor W. H. Siebert, in a spirit of sacrifice and devotion, acceded to the urgent request of the Administration and became the Acting Dean of the College. Meanwhile a Committee of the College of Arts gave considerable study to the conditions of the College and the requirements for the Deanship and recommended Professor Walter J. Shepard for the position of permanent Dean. This recommendation was approved by the Board of Trustees on June 11. Professor Shepard was in the Department of Political Science of this University from 1909 to 1911 and again from 1920 to 1922. He was also Professor of Political Science in the University of Missouri and for the past few years has been in charge of the work in Government in the Brookings Institute of Economics and Political Science. He has had a wide activity in these various fields and comes with a very complete equipment of knowledge and experience in reference to the work of the College. This arrangement retains the entire teaching strength of the College of Arts and adds thereto a man of high capacity and long service in close relationship with the activities and the ideals of Arts Colleges.

#### LEAVES OF ABSENCE

Perhaps ordinarily a leave of absence granted to a professor in a University for a period of time would not be of particular importance; but during the past year some leaves of absence are of unusual interest, since they tend to show the relation of the University to the activities both of the State and of private industries.

Such absence also gives the professor a wealth of experience which will inure to the benefit of his teaching service upon his return and so profit not only his classes but the University as a whole. To a reasonable extent for these worthy purposes and others, the policy should be one of cordial approval of leaves of absence, ordinarily coupled with a provision for the return to service which will make the University the beneficiary of these enlarged experiences.

Professor John L. Clifton, for many years a professor in the College of Education and recently in charge of the Bureau of Appointments maintained in that college, was selected by the Governor of Ohio for the position of Director of Education in the State Department of Education. In order to enable Professor Clifton to undertake that service without passing completely out of the University circle, a leave of absence for two years was given so that he might undertake this large and very important service for the people of Ohio. He brings to that service a long acquaintance with the public school system of Ohio and an acquaintance running over fifteen years with the University and its College of Education, and therefore presents an unusual equipment for this high public activity.

Professor H. Gordon Hayes, for some years a Professor of Economics in this University, was given leave of absence to engage in teaching in the University of Porto Rico during the winter and spring quarters. Earnest and intelligent efforts have been made to bring this University in close touch with education in the United States by exchanging professors and by an anniversary celebration in Porto Rico, and in other ways. Professor Hayes by this



tour of service is enabled to bring to the University of Porto Rico progressive American thought in the field of Economics and will doubtless bring back to the United States an intimate and sympathetic knowledge of the people of Porto Rico and their ideals.

Professor Howard C. Greer, Chairman of the Department of Accounting, was granted leave of absence to undertake for the packing interests of Chicago a study of their operations for the purpose of improving and, if necessary, remodeling their system of accounting. This is a large service for a very large industry and will extend over a period of perhaps two years.

Dean C. O. Ruggles of the College of Commerce and Administration was granted a year's leave of absence to enter the service of the National Electric Light Association in an educational capacity. His duties were to be primarily a study of the offerings of colleges and universities of the United States in the field of public utilities, especially as those offerings are found in colleges of commerce or business administration and in colleges of engineering, with some study of the possibilities offered in the field of colleges of law. The aim is to learn what these colleges offer in the way of training for the service of public utilities, and also, if thought advisable, to present proposals in the form of a report for the consideration of these colleges with a view of improving their efficiency in this field of training. It was also considered that certain combinations between colleges of commerce and colleges of engineering might be very fruitful, involving also in some cases colleges of law. It was hoped that this study might lead to a stronger cooperative effort among these colleges in the framing of courses and curricula which will fit young men for public utilities work.

It turns out that Dean Ruggles will not return to this University but will go to the Harvard School of Business Administration next year. This is a heavy loss to the University but will put Dean Ruggles into association and relationship with the most aggressive and progressive institution in the United States in the field of business administration and consequently opens to him an unusual opportunity. In this way also this University is serving the interest of education throughout the country.

There were other leaves of absence through the year which do not involve the unusual relations and possibilities of those sketched above and individual mention is therefore omitted.

#### LIBRARIAN

During the year careful search was made for a Librarian to take up the work which Miss Olive B. Jones had carried for so many years. A Committee studied the records of a number of men in that field and held conferences with several, and recommended unanimously Earl N. Manchester, who for six years has been the Librarian at the University of Kansas. Mr. Manchester accepted the election here and will begin his services as Librarian during the Summer of 1928. He has a fine record of accomplishments at Kansas and understands the place of the Library in the University organization and will enter upon the administration here with enthusiasm and optimism.

The Library during the year has been managed by the Cabinet, composed of Misses Jeffrey, Kellicott, Schneider, and Davis, and these women and the Library Staff under their administration have served the University in an admirable way. Appreciation is hereby expressed for their devoted and skillful services.



## STUDENT COUNSELOR

During the year the position of Student Counselor for men was created, and Joseph A. Park, for a number of years Secretary of the University Y. M. C. A., accepted appointment to this office. He has enjoyed a comparatively unrestricted liberty in working out the possibilities of the position and during the year has had a great variety of experiences and has made remarkable progress. He enjoys the confidence of the University Faculty and of the students and is progressively establishing relationships with students in the various activities which enter into student life. Attention is called to his report which will appear in another portion of this volume.

The position is comparable to that of Dean of Men in similar institutions; the need for wise and sympathetic counsel and the steadying influence of adult help in the numerous contacts and ramifications of student collateral activities has long been appreciated. It may safely be said that, in shaping student trends and in character building, these extra-class activities are very powerful and a large University responsibility is clearly indicated.

## MILITARY COMMANDANT

At the close of last year Colonel A. M. Shipp, who had been Professor of Military Science and Tactics for several years was, at his request, transferred to the Military School at Leavenworth, Kansas. He was succeeded by Colonel G. L. Townsend, who had had a former tour of service here in the capacity of P. M. S. & T. some years ago. Colonel Townsend has been very cordially received by the University Community, and under his administration the Military Department will progress on the high plane which it has reached in recent years. The Military Science and Training is well regarded, and always has been, by the Ohio State University trustees and faculty, and is recognized as having a very appropriate place in Land Grant Institutions of learning. The enrollment in the basic division of the Reserve Officers' Training Corps, usually abbreviated R. O. T. C., runs at about thirty-seven hundred students, and the advanced division of the work is in favor among those students who desire to pursue training which will enable them to become commissioned officers in the Reserve Force. Each year a large number of young men receive commissions as Second Lieutenant in the Reserve Force of the country, and the ceremonies in the R. O. T. C. unit awarding these commissions are a noteworthy feature of the military activity on the campus and are carried on in the presence of the entire unit.

Several years ago there was some restlessness here and there because of the presence of military training in the State University, but for some time now no opposition has been heard. The training goes on smoothly and is a part of the University program, and the relations between the educational side of the University and the headquarters of the Fifth Corps Area and the War Department are very cordial.

## NECROLOGY

During the year several of the members of the University Staff have died. Dr. Joseph W. Leist of the College of Medicine, July 24, 1927; Mrs. Sophie Barker, Hostess of Pomerene Hall for several years, on January 6, 1928;



William C. Mills, Lecturer in Sociology, on January 17, 1928; and Dr. H. Shindle Wingert, on May 11, 1928.

The great service of Mr. Mills' life was given to the Historical and Archaeological Society of Ohio, which developed from small beginnings to a very extensive organization during the period of his connection therewith. He became very well known for his exploration of mounds of the early inhabitants of America and for many important discoveries which he made in them and for theories proposed by him to explain many of the situations discovered during these explorations. Although his chief work and almost his entire activity were in the service of this Society, yet he was a very familiar figure on the Campus and was generally regarded as one of the University people. In earlier years he had been a member of the Athletic Board and manager of athletic teams, and it was largely due to his careful economy that money was obtained to make the very large improvements on old Ohio Athletic Field.

Dr. H. S. Wingert died on May 11, 1928. Dr. Wingert came into the service of the University in 1906 as Director of Physical Education and Athletics and later continued with physical education only. At a still later date, about 1913, he became Director of the newly organized Student Health Service. It was in this activity that his greatest service was rendered. He engaged enthusiastically in this field and not only by the treatment administered to individual students but by a system of publicity of health maxims, or health lectures in miniature on small cards, he reached a great part of the student body. The last two years of his life Dr. Wingert was in bad health, which kept him away from the University most of the time; but he seemed to be practically restored and came back into the Administration of Health Service in March, 1928. He was seized with influenza early in May and died within a week thereafter.

Mrs. Barker served capably in a new activity, that of Hostess of Pomereene Hall, and did effective pioneer work. Her death was sudden and greatly shocked the University community.

#### SELF-GOVERNMENT

At the opening of the year the Student Senate, an organization representing men students in the University, came into existence under a constitution adopted by these students, made for the purpose of crystallizing the thought of the men about student activities and their guidance and control. Provision was made in this constitution for the choice of a Student Court for the purpose of hearing and judging cases of student misconduct, either violation of University regulations or of good morals. This court has been functioning through the year and one of its regular activities has been the hearing of cases of violation of the University traffic and parking regulations. The great growth of the student body and the incidental increase of automobiles has made regulations necessary for both traffic and parking. The University Police Force, made up of four men, detects these violations and reports the student, and in the course of time his case will reach the Student Court. The Administration has given the Court cordial support through the year and this body has won the respect and confidence of the students and has acquired experiences which will point the way for its future development. Towards the latter part of the year the Women's Student Gov-



ernment Association selected a woman student for membership, so that all students are now represented.

Frankly we are here trying an experiment and with a continuance of the interest and cooperation of the Administration and the students it is believed this Court will go far towards relieving the Administration of many situations arising in dealing with a large number of students, and it is felt that the activity of the Student Court will possibly be better received by the student body than Administrative orders would be; the civic life of the students and the understanding of their civic functions will be aided by this participation in the regulation of their own affairs.

#### DRAMATICS

For years there have been student dramatic organizations and in recent times they have been increasing in variety. This is a commendable outlet for student energy but it is the feeling, after some years of experience, that these activities should be subject to a better coordinated University control. It is seen that much talent has been ineffectively directed and therefore without particular educational consequence, which in the last analysis means that the student is more or less wasting his time. There are some fine organizations also which have been perpetuated through the years, and which through student intelligence and zeal have reached a commendable stage of accomplishment. There are organizations also of a dramatic nature which are careful in the selection of their coaches and have been rendering excellent dramatic results all the while.

However, the dramatics situation as a whole, with reference to the students, has been calling for mature study to determine what steps the University might properly take in the management of these organizations, and for that purpose there has now been created the position of Director of Student Dramatic Organizations. Mr. Herman A. Miller, an instructor in English, who has had much experience in dramatic creation and production, was made the Director and has been giving careful study to the entire situation during this current year. Out of this study will come suggestions for organization, control, and direction of dramatic production. Encroachment upon the field sacred to the older dramatic organizations for a number of years will be made with great circumspection and recognition, but it is believed that the best interests of the University community will be served by some recognized supervision of this very desirable student activity.

#### COOPERATIVE ACTIVITIES

##### *With State Departments —*

The University has been called into another field of State service in connection with the State Department of Education. For practically all of the present year Professor H. B. Alberty was loaned to the State Department of Education to study the needs of teacher training in Ohio. Cooperative relation has been established also in reference to the organizing of a scholastic contest among the high schools of the State for next year for the purpose of finding and developing the students of most outstanding ability in these schools. Also there is to be cooperation in the matter of adult parent education to ascertain the desire of the people of Ohio for adult education and to study the methods and organizations for giving it expression.



There is evidence that some well digested plan for adult education is being sought by a number of agencies in Ohio and the State Department of Education has been solicited for information concerning the best ways and means. The cooperative study should disclose the desire for such education, especially in the larger centers of population in the State, and should also make known the possibility on the part of the University of meeting the educational wants. A kind of laboratory exercise has been set up for conducting this exploratory activity.

An agreement has been effected with the State Board of Vocational Education for cooperation with the University in the conducting of night schools in the mining districts of Ohio for mine foremen and fire bosses. Certain requirements have been placed upon these employees recently by statute and a period of education in the field of mining is necessary in order to enable them to qualify under the new law. The University is to contribute certain apparatus for demonstration and cooperate in the matter of arranging courses for teaching and in general supervision.

#### *University and Industry —*

Certain agreements entered into between the University and industries further illustrate the functions of the University in reference to research and answering the questions which the industries themselves propound. The incubating business has come on in the United States at tremendous speed and the new incubators have presented some questions in relation to a forced draft, the spread of certain diseases through the incubator and the spread of disease also through the brooders, which the industries have not answered. One of these agreements has been made between the University and the Buckeye and the Smith Incubating Companies for the study of these questions arising from the very extended process of incubation and the use of brooders after the chick has been hatched.

Another such agreement has been made with the National Electric Light Association for the study of the use of electricity on the farm. This study has been going on for several years under the direction of the Department of Agricultural Engineering of the University, near Marysville, Ohio, where an electric line has been erected. The present agreement calls for the pursuance of the investigation through a period of several years upon an agreed basis of contribution and activity. Several important questions are involved, one of which is, Has the farm pressing need of electric light and power? and another, What is the reasonable rate to be charged for this service? There is the purpose also to develop a field for the use of electric current by demonstration to the farm population the various ways in which the current may be utilized on the farm.

#### STUDENT LOAN FUNDS

##### *From Alumnae —*

A highly commendable spirit on the part of the Alumnae of the University appears in their large and frequent contributions to the Student Loan funds. The University is the custodian of a number of funds intended for loans to students and such funds are administered by a committee composed of the Assistant to the President, the Dean of Women, and the Student Counselor. A rather searching inquiry is made into the record and the purposes and the character of the student soliciting a loan and if granted, the student is required to execute notes for the repayment of the money in a reasonable time after



graduation, so that the fund may become a rotary one and those who are its beneficiaries now may keep the fund intact for those who come after. Notable contributions for this purpose during the year have come from the Alumnae group in Detroit, in New York City, in Pittsburgh, and in Dayton. No large loan is made to any student, but the amounts of money which can be distributed from this source accomplish a very genuine purpose and the generous thought of the University Alumnae is appreciated by these needy students. This is a worthy manifestation of the results of education and such recognition of social need on the part of our women graduates goes a long way to justify the maintenance of the State University.

*From Columbus Scholarship Society —*

During the year a number of gifts were made to the University for various purposes. The Columbus Scholarship Society, an organization of women outside of the University, accumulated and presented for the benefit of the Student Loan Fund the sum of \$500. This group of women is thinking very constructively about the conditions of the student in this University and very actively contributing of their time and their money for the benefit of these students.

GIFTS AND ENDOWMENT FUNDS

The American Institute of Steel Construction created a fellowship which will be devoted to the study of stresses in tall buildings.

The Hollow Building Tile Association made a gift to the University of \$2500, to be used in fire wall construction for testing purposes.

The Electric Porcelain Manufacturing Company created a fellowship for study in the Ceramic manufacturing field.

These cases of gifts of money to be administered by the University for specific purposes, all educational in their objective, show the regard of people in industry for educational institutions and also show the purpose of the educational institution to answer the questions raised by the processes of industry; there is thus established a mutual relationship which is cooperative and highly beneficial to all parties.

Miss Caroline Lord, sister of Professor N. W. Lord and Professor H. C. Lord, both of whom spent many years in the service of this University, presented an oil painting illustrative of a lesson given by a master to a student in engineering drawing. This picture has found a very appropriate place in Brown Hall.

The Board of Trustees has always made prompt and appreciative recognition of gifts coming to the University and has the highest regard for its custodianship or trusteeship in all these cases. The University feels the honor of being selected by private donors as the trustee beneficiary of their free-will offerings and stands constantly ready to administer all gifts which may have a proper bearing upon the educational activity.

OHIO STATE UNIVERSITY ASSOCIATION

Some years ago the Ohio State Alumni Association was given the above name so that it would cover students who had not been graduated, as well as the alumni of the institution. All persons who had ever been students here were to be gathered into one organization, general in its nature, with many purposeful units, so that the University might be kept perpetually green in



the minds of all its former students. It was conceivable also that there might be as much enthusiasm for the University in the mind of one who had not received his diploma as there would be in mind of the graduate. In very many cases the thought has long since been verified, and the organization today is constituted in that manner, and the local units are found throughout the counties of Ohio and in many places in other states and countries.

Annually an Ohio State Day is appointed about Thanksgiving time for a gathering of Ohio State people in these units; on these occasions a member of the teaching force of the University is invited to come for an address, and bring late news and prospects and inspiration from the Campus. These contacts have desirable results both in the communities and upon the speaker and ultimately, therefore, upon the University. In this way the students of other days can keep in touch with University progress, the changes that are endlessly going on in the plant and in the educational activities, and with this touch they renew much of their enthusiasm for the institution. The ultimate results of these contacts are probably impossible to state, but they are pleasant and informing and the local units may at times become very helpful in giving the local members of the Legislature a feeling of their own interest in the University, and a more distinct conception of the meaning of the University in the lives of the people of the communities of Ohio. This information about the University and its plans is also given biennially in legislative years to selected representatives from the different county units who come to a meeting at the University to learn about and discuss the proposals which the University will make to the Legislature in its next session. The information and the enthusiasm marking the occasion are very helpful in giving the University its proper status in the minds of the members of the Legislature and other people of the State, and thereby enabling the University to be of constantly growing use to the commonwealth.

The Officers of this Association take a keen interest in the University and the governing board is composed of graduates who very willingly spend their time and money and thought upon the University enterprise. For eight years Mr. J. L. Morrill, of the Class of '13, has been the Secretary and in that capacity has made all arrangements for the annual meetings for the special gatherings at the University at Commencement time and at other times, and has been the living spiritual embodiment of the finest type of University life. The annual Sunset Supper on Alumni Day at the June Commencement time brings back two thousand or more of the graduates and ex-students for a very happy reunion and social occasion.

The Ohio State Monthly, which is the organ of the Association, has been progressively brought to a high stage of development, and is a great thesaurus of information about the University as it is seen in operation; it carries special monthly contributions from President Emeritus W. O. Thompson and Professor W. L. Graves and others, has many contributed articles of the finest University interest, carries a running editorial discussion month by month of University aims and accomplishments and the changing educational process, besides a wealth of personals distributed by classes back through the years. In a most substantial and commendable way the *Monthly* is one of the finest exponents of the University life and purposes and keeps translating the University of the present to the students of other years. Mr. Morrill and his staff have made a rare accomplishment in bringing this *Monthly* to its high state of perfection.



The Ohio State University women have also been organizing Alumnae groups and one of the very meritorious accomplishments of such groups is the creating of student loan funds which are intrusted to the University for relieving the needs of worthy students, selected by a University committee. These funds grow in a very encouraging way and an increasing number of students become beneficiaries of the good will and encouragement of those who, because they were once students here, are quite well informed about the vicissitudes of student life.

Individual Alumni have also created scholarships devoted to certain purposes and are thereby making a contribution to the discovery and spread of knowledge.

Much thought is being given to ways and means by which the Association may undertake activities of importance to the University enterprise, and thus integrate their interest and constructive action into the growth of the University. A series of conferences with a selected group of Alumni and of the University Administration have been held for canvassing the entire situation and developing a program of Alumni interest and activities and some progress has been made. The outlook is very hopeful, the problem being to find a plan; certainly if the proposed plan can be devised both University and Alumni interest will be readily enlisted. The sympathy with the University activities is ever present in the minds of the former students, the University comes to mean more in sentiment to them as the years pass, their children are being educated here and they are very hearty in their readiness to assist in the development of the institution and the spread of its usefulness among the people. The times are very auspicious and the Administration and Association officials are enthusiastically studying plans for making the University more helpful to the Alumni and Alumni more helpful to the University.

#### IMPROVEMENT OF TEACHING—THE DALTON PLAN

Various methods of teaching have been proposed for classes of pupils in the public schools which will retain the advantages of the class organization and at the same time impart to it the methods of individual attention. Such methods call for the exercise of considerable intelligence and self-reliance on the part of the pupil, since he must go on rather independently with the study proposed and the various pupils in a class may proceed at different rates of speed.

One of the plans accomplishing this purpose which has had very favorable recognition is known as the Dalton Plan. A school to exemplify the features of this plan of training exists in New York City and at its head is Miss Helen Parkhurst. Last summer Miss Parkhurst came to the Summer Quarter with a series of lectures and discussions on the methods of teaching and after the close of the Summer Quarter she was approached with a proposal to establish, in the Summer Quarter of 1928, a Demonstration School in which the Dalton Laboratory Plan in the elementary and junior high school grades should receive exemplification. An opportunity of this kind has never before been presented in this University and the experiment will be studied with the greatest interest. One of the public school buildings of the city of Columbus, adjacent to the University, will be utilized for the Demonstration School, the pupils coming chiefly from the families of the city. Miss Parkhurst will transfer a number of her staff for the Summer School work. Concurrently with the Demonstration School will go the lectures by Miss Parkhurst adapted to



give training to teachers who may then carry these ideas into the public school system of the State. Public school superintendents, principals, and teachers have expressed a keen interest and will watch the "Plan" in operation. It is expected that there will be much discussion of this and other teaching plans and that much good will come to the schools of the State from the experiment.

#### ATHLETIC MANAGEMENT

For many years the athletic activities of the University have been controlled by the Athletic Board which has always contained a large representation from the University faculty; therefore, the University has participated in the management of athletics and such activities have always proceeded with University authorization and responsibility. With the building of the Stadium and the very considerable enlargement of the facilities devoted to athletics, both competitive and recreative, the thought was expressed that a closer coordination between the University administration and Athletic administration might be effected to mutual advantage. The Athletic Board had been carrying a tremendous load of responsibility, during the last ten years particularly, and their experience and thought in this connection resulted in transferring to the Board of Trustees the entire athletic plant.

Under this proposal also the budgets for athletics will be subject to approval by the Board of Trustees, the receipts from athletics will pass into the hands of the University Treasurer and all purchasing will be done through the usual University agencies, so that the business of athletics will be carried on as a Department of the University, and, therefore, subject to University regulations. This proposal of the Athletic Board had the cordial approval of the Board of Trustees of the University and the athletic business is being conducted in this fashion at the present time.

This arrangement does not relieve the Athletic Board of the business of managing athletics. Their initiative and intelligence and responsibility are still in the scene as much as ever, but a certain status and degree of assurance have been given by the closer integration with the University enterprise. All business goes on in the same cordial and responsible manner with which the strict business of the University has been carried on through the years and the entire relationship is one of very great satisfaction to all parties.

Although athletics, theoretically, is purely incidental to the educational activities, yet, practically its interests are so large and have so many ramifications through the University community that it has become a major interest and must be dealt with on that basis by University authorities. It must be held to the requirement of making a distinct contribution to the educational processes and must also be held from assuming a place of disproportional importance; many people think it has long since assumed that magnitude, but our problem today is a practical one and in hearty cooperation with other large State Universities we are endeavoring to control and direct athletic activities in strictly amateur fashion and in proper accordance with its place in the educational scheme. The Athletic Board and the University authorities here are entirely cordial in their cooperation in this enterprise.

#### DEPARTMENT OF MUSIC

Although the Department of Music has existed since 1925 yet it was not completely staffed and had very meager equipment; during the past year a



staff of six teachers has been provided and considerable money spent for equipment.

The Department has been housed in the old residence on High Street which for more than fifty years was the home of the President of the University. It is recognized that these quarters will be adequate only a very short time and that the equipment provided will soon be outgrown; the staff has already been found insufficient for the demands made upon the Department. It was felt for some time previously that there would be considerable interest in music from the beginning but an insuperable difficulty seemed to be the housing of the Department's activities. Early thought will have to be taken about provision for the rapid growth of the Department. The registration during the year has shown a large and healthy student interest and plans have been made for additions to the staff for next year.

In addition to the teaching of music in course, the Department also assumed a heavy load in endeavoring to train student music organizations, such as glee clubs, the orchestra, and choral singers. These student activities are recognized as having both musical and social values, and, therefore, are worthy of all encouragement and of the most effective attention of which we are capable. This addition has made the work of the Department very heavy, but all persons interested in the musical life of the students and in the opportunity for a training in music for public school teaching are satisfied with the first year's experience and are entirely hopeful concerning the future.

There is no doubt about a very large future for music in this University and it is under very capable and sympathetic direction.

#### LANDSCAPE ARCHITECTURE

For some years Landscape Architecture was associated with the Department of Horticulture and Forestry in the College of Agriculture. It came to be recognized that there was no natural relation between these activities, and by agreement of all colleges and parties interested, transfer was made to the Department of Fine Arts during the year. Here it is believed that the work will have larger opportunity for development, inasmuch as there is a basic relation between this work and that of the Fine Arts generally.

#### CERAMIC ART

Two years ago the Ceramic Industries of Ohio through their State Organization solicited the University to establish a course in Ceramic Art. This was done by the Department of Fine Arts and provision made for a teacher of high quality to initiate the work. However it turned out to be impossible to find a capable teacher who was willing to undertake University work at that time although the course was set up and the University was ready to proceed. During this year, however, arrangements have been completed for the teaching and for the equipment needed in this Department and in the Autumn of 1928 Ceramic Art will be a realization here.

The ceramic industries for some years have been convinced that they were not making a product which is the equal artistically of the product of many European potteries and it seemed very appropriate that the State University should be enabled to come to the assistance of the industry.



This is merely one more evidence that the University is in living touch with the industries of the State of Ohio and is bending its energies to be of constructive and continuing help.

#### FOREST EXPERIMENT STATION

During the year the University established a new contact with the Federal Government. The Department of Agriculture carefully investigated the conditions existing in the states in the Mississippi Basin for the purpose of finding proper location for a forest experiment station. At such station the Government planned to carry on a study of forestry conditions throughout the Mississippi Basin, to given attention to forest conservation and to endeavor in a period of years to make a long advance in the thinking of the people in this region about their forests—the necessity of preserving such as still remain and the necessity also of starting new ones. The thought was to cooperate with the Colleges of Agriculture and Agricultural Experiment Stations. After study of the region the Federal Government located the forest experiment station for the Ohio and Mississippi Valley at this University and during the year the Experiment Station Staff has been very busy in this connection.

The presence of the station created a new enthusiasm here for forestry, leading to the establishment of a two year curriculum in that field. This will prepare students for advanced work at other Land Grant Colleges where forestry is carried through a four year course. The station therefore is leading the University anew to the study of Ohio forestry needs and possibilities, which as a University subject here had become practically extinct.

#### UNIVERSITY POST OFFICE

For some years the University in its rapid growth has felt the need of greater postoffice facilities. The student population of 14,000 creates many new needs and among them the postal need, and during the year an arrangement has been effected with the Postoffice Department to install a University Station. This will be placed in University Hall and will be a receiving and delivering and distributing post. This Station will go into service early in the Autumn of 1928 and it appears that at last the University population will have adequate mail facilities.

#### FEDERAL SURVEY OF LAND GRANT COLLEGES

The Land Grant College of the United States grew out of the Morrill Act passed by Congress in 1862. There are such colleges now in every State in the Union, and their creation and growth feature the last sixty years of our national life. Certain recent large plans for extending further government help to these colleges seemed to call for a survey of their activities, progress, and accomplishments during the long period. This survey has been organized and in progress for more than a year and various colleges have been called upon by the Director of the survey, Honorable Arthur J. Klein, for help in preparing questionnaires and data for the content of the survey. This University was honored by the selection of Mr. Carl E. Steeb, for almost a quarter of a century Secretary of the Board of Trustees and for many years the Business Manager of the University, and Professor H. C. Ramsower,



for many years Director of Agricultural Extension in this University, to aid in this enterprise. These gentlemen spent several months during the winter at Washington on various phases of the survey and were highly commended for their spirit and their efficiency by the Honorable John J. Tigert, Director of the Federal Bureau of Education.

The survey is making progress and the various Land Grant Colleges are now engaged in compiling the information called for. Doubtless in addition to the information which will be compiled, a fitting appraisal and adequate portrayal of the accomplishments of these colleges and their function in the industrial, agricultural, educational, social and moral life of the people will be given. There is great enthusiasm on the part of the colleges in cooperating in this survey and the result should be not only an historical showing but a delineation of the present status and future potentiality of these institutions. One can rapidly grow at least sentimental and possibly rightfully enthusiastic and perhaps a trifle prophetic in thinking and writing about the Land Grant Colleges and their striking effect upon the educational processes which have come into prominence in the last half century. Those Land Grant Colleges which have come under the aegis of State support as well, and have expanded into State Universities, are rightfully regarded as having a peculiar mission of state-wide importance in education, and are endeavoring to fill a sphere of influence both cultural and practical which no other educational institution in the states can be expected to reach.

#### UNIVERSITY TEACHING STAFF AND FINANCIAL REQUIREMENTS

The test of the success of the University lies in the quality of its teaching, in the opportunities afforded for study, and in its integration with the social life and ideals of the time. Important also is the quantity of its teaching, or the size of the teaching staff. During the past few years studies have been carried on from various viewpoints, for the purpose of ascertaining and keeping in touch with the teaching load carried by the instructional force, and action has been taken on these data, from time to time, as it seemed pertinent. The teachers in the University today are carrying a reasonable burden of teaching, and it must be remembered that the teaching function covers a variety of activities, such as actual classroom lecturing or quizzing, supervision of laboratory work, conferences with students, counseling and advising graduate students, and the very considerable task of reading and passing upon hundreds of reports and examination papers submitted by students.

In addition to this teaching, many members of the staff are called upon for administrative activities, and work on committees having in charge departmental questions or investigations of interest to the particular college, or of studies interesting to the University as a whole, and of these committee assignments the number is legion, and the effort required is very exacting. Yet, no better way has so far been devised of carrying on the numerous studies and making the various reports about interesting matters in the University life and administration than to press the professor into committee service, which is as vital to the on-going of the University as any other activity connected with it. In fact, much of the progress we make comes about as the result of the careful and prolonged study of committees, and their well-considered reports.

In the last half dozen years, the salaries in all colleges and universities have risen considerably and the Ohio State University has been consistently



behind the salaries paid for exactly the same kinds of duties in the Universities of Michigan, Wisconsin, Minnesota, and Illinois, all these universities being entirely comparable with this University in every other way. Consequently a drift from this institution to them and other institutions where higher salaries were paid, was becoming evident, and through the last few years, so far as University funds permitted, salaries have been somewhat increased. This was found to be indispensable if this University were to hold its better teachers, and if it were to be enabled to add teachers of experience and unquestioned quality. Through both these necessities, the amount of money needed by this University for its pay roll has steadily advanced as may be seen in the figures herewith submitted below.

During all these years, the attendance has rapidly increased, as appears also in the data submitted below, and unless the increase in students is attended by an increase in the teaching force, the class sections will be over-size; we have had that experience for some years. A great effort is now being made to reduce the class size to a reasonable number, and therefore to provide a larger number of teachers, and to provide more mature and skillful teaching wherever possible. The matter of teaching, its purposes and methods, has never been more earnestly studied in this University than it is at the present time, and adjustments are being made wherever possible to bring the maturer teachers in departments into some contact with the lower class students, and these adjustments are being carried on very extensively throughout the University.

It is clear that with the increase of students, the consequent increase of the teaching staff, the effort to make adjustments among the present staff to bring the more experienced teachers into contact with the various classes, the effort to make all accessions to the teaching staff of the highest quality obtainable, and the increases of salaries throughout the staff necessary to make the teaching conditions here comparable with other universities of the same grade, have called for constantly increasing annual expenditure. The funds annually expended have come in part from the federal government (\$50,000.00-Morrill fund), from student fees (increased now to \$20.00 per quarter), and from state appropriations; it is submitted that the policy of requiring the student to pay fees for the purpose of providing the teaching staff is contrary to the principle upon which such universities are founded. However, in the legislative stringency, there seemed nothing else to do a few years ago, except to assess against each student a fee of \$15.00 per quarter. That has now been increased to \$20.00 per quarter, so that the University today is demanding from students a "cover charge" of \$60.00 per year. The students, therefore, are contributing a considerable portion of the sum used for teaching.

It will be noted that the teaching positions set up in the University for this year, which will carry over into the next year if the University is to be maintained only on its present basis of efficiency, call for an appropriation by the Legislature for each year of the biennium 1929-1931 for personal service of somewhere around \$2,800,000.00. This is considerably more money than the Legislature has hitherto appropriated for this service, or as it is called in the state classification—the A-1 Fund, but the limit is not reached on the present scale of expenditure; the Student body increases annually, further improvements in the actual dealing with the students and their teaching must be made, which will call for larger funds, and larger expenditure will be necessary in

the next biennium because of all these factors, and because of the demands constantly being made upon the University by the people of the state.

Popular education on the University basis has not reached the peak. The desire among students all over Ohio is to go to the large institution, and the Ohio State University will continue to receive larger and larger accessions of students annually. If this University alone were thus growing, some movement might be inaugurated to disperse these students among the smaller colleges and universities of the state so that they might receive some training nearer home, but practically every one of the higher educational institutions in Ohio is crowded, and has been for several years, and a number of the larger institutions have placed a limit upon the number of students who may attend, and have been enforcing this limit now for three or four years. Therefore, there is no hope for relief from a constantly growing body of students in the other educational institutions in this state, and the clearly indicated course is adequate provision by the state for educating at the State University the constantly swelling throng of students from all parts of Ohio, who are asking for its service.

Therefore, the following figures will not only show growth and progress, but in the light of the above statements, will furnish their own justification, and will also, necessarily, form the basis upon which calculations concerning the work of the University, and the money required for the next biennium may be based. The tables mentioned follow:

In the school year 1925-1926, the number of teachers employed in the University, distributed into ranks, was as follows:

Professors .....	196
Assistant Professors .....	151
Instructors .....	177
Assistants .....	127
Graduate Assistants.....	80
<hr/>	
Total .....	731

In addition there were 52 student assistants and readers of manuscripts.

In the year 1926-1927, the numbers were as follows:

Professors .....	200
Assistant Professors.....	155
Instructors .....	170
Assistants .....	133
Graduate Assistants.....	81
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Total .....	739

In addition there were 51 student assistants and readers of manuscripts.

In the year 1927-1928, the numbers were as follows:

Professors .....	205
Associate Professors.....	7
Assistant Professors.....	151
Instructors .....	183
Assistants .....	138
Graduate Assistants.....	87
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Total .....	771



In addition there were 54 student assistants and readers of manuscripts. For the year 1928-1929 there have been provided:

Professors .....	206
Associate Professors.....	38
Assistant Professors.....	154
Instructors .....	190
Assistants .....	133
Graduate Assistants.....	105
Total .....	826

In addition there will be 67 student assistants and readers of manuscripts. The statistics showing sums of money required annually to carry on the personal service in the University follow:

## STATE APPROPRIATIONS

## A-1 SALARIES

Biennium—1923-1925 .....	\$3,327,316.00
Biennium—1925-1927 .....	3,880,652.00
18 Mos. —1927-1928 .....	3,365,291.00

## EXPENDITURES FOR SALARIES

Year—1923-1924 .....	\$2,095,665.12
1924-1925 .....	2,281,634.39
1925-1926 .....	2,497,194.48
1926-1927 .....	2,683,145.22
1927-1928 .....	2,969,963.57
1928-1929 .... (Will exceed \$3,200,000.00) .....	.....

These budgets provide for all teachers, clerical force and all employees in the physical plant.

## UNIVERSITY INCOME AND STUDENT FEES

There has always been a general student fee in the Ohio State University, but in recent years it has been increased. A few years ago it was placed at \$15.00 per student, per quarter, and inasmuch as most students attend only three quarters in a college year, the fee for most students amounted to \$45.00. A year ago the general fee was increased \$5.00 per quarter, and during the year just closed, therefore, each student has been required to pay \$20.00 per quarter, or \$60.00 for the normal college year. This charge is assessed against all students.

If a student should be a non-resident of the state of Ohio, he is required by a University rule to pay \$35.00 per quarter, as a non-resident fee, amounting, therefore, to \$105.00 per year of three quarters. Therefore, today a student who is a non-resident of Ohio pays \$165.00 in fees. The rate is higher in the three professional Colleges—Law, Medicine, and Dentistry, but inasmuch as additional fees are required there because of the great expense attached to professional education in these fields, no further mention will be made of that matter at this point. The other state supported higher institutions of learning in Ohio also assess general fees for all students, varying from a

small fee at Wilberforce to \$70.00 at Ohio University, but the point here is that the charging of general fees to the student in the state supported institutions prevails in Ohio.

Fees are a part of the educational system in most of the colleges and Universities of the country, supported by the public, and in institutions supported on a private foundation fees are the rule, and in most cases are comparatively large. The fees now assessed in Ohio State University are comparable with those assessed in other State Universities of the country with a few exceptions.

The question frequently asked concerning fees is whether they are in accordance with the spirit which led to the establishment of these state institutions. Recent students and thinkers in the field of University education have recognized the practice that has become prevalent, and at the same time they sense a menace to democratic education in the creation of these fees. Speaking before the eighteenth annual meeting of the Association of University and College Business Officers in May, 1928, Mr. Lloyd Morey of the University of Illinois, in summarizing his discussion, says:

Our state Universities and land grant colleges are an integral part of our public supported school system, and their major support should come from the state; fees have been charged from the beginning, and no federal law and few state laws prohibit them; they have increased somewhat, but still represent a small part of the total expense, either of the institutions or of the students; a considerable uniformity exists in the practices of the various institutions, and the period of considerable increase appears at an end.

There are sound reasons why some fees should be charged; but the fees should be moderate, in order to maintain and further encourage democracy and equal opportunity in our institutions, and to prevent departure from one of the cherished principles upon which they are founded.

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The state university and land grant college is the world's greatest experiment in education. It is the nineteenth century contribution of America to the most democratic and inclusive educational system in the world. Every proposal to increase fees endangers the ideals and principles upon which the experiment is founded. We should scrutinize each one with the greatest thoroughness, and particularly should guard against the development of an idea which may undermine the fundamental conception of our establishment, and shut the door of opportunity, which we are charged to keep open, to those who need it most.

Lotus D. Coffman, President of the University of Minnesota, speaking before the Department of Superintendence of the National Education Association, at Boston, in February, 1928, on the subject, "The State University—Its Relation to Public Education", says:

Education has been supported as a social investment. It has been assumed that society's contribution to the education of its children is returned manifold in service, progress, and wealth. And the facts, I believe, fully justify that theory. One only needs to point to the states that have neglected education as contrasted with the states that provide generously for education, to find evidence in support of this assumption. If one will take the five states that have provided most liberally for education, and compare them with the five states that have provided most parsimoniously for education, he will find that the average earnings of the families in the former are almost twice those of the latter, that the amount per individual in the savings banks is nearly ten times greater per individual in the former than in the latter, that the number of books in the libraries and the number of magazines and newspapers subscribed to is vastly greater in the former, and that the living conditions by and large are much superior in the former.

Further, in speaking of the attacks being made upon popularly supported education, he says:

We know that there are many who maintain that too many are in school and that too many are being graduated from college. There does not appear to be any trustworthy information showing that the professions, in general, are overcrowded. And we do not seem to have too many persons with a knowledge of government and of the other institutions of men. Where



trained intelligence exists there we seem to have the best citizenship. And is not citizenship a function which all classes of people are expected to exercise? Shall we deny those who are to traverse the humbler walks of life the outlook of the trained mind? If we attempt to do it, we shall probably find ourselves reckoning without our host, for as Lincoln said, "God must have loved the common people. He made so many of them," and they still rule in the land.

The State Universities and the public schools have had still another common interest, an interest to which reference has already been made but which is deserving of further consideration. This interest may be best described by reference to an address which I heard a gentleman deliver recently before a distinguished midwestern club. He said, "College education, and perhaps secondary education, to some degree at least, should be based upon wealth. Those who are able to pay for it should be privileged to get it; those who cannot pay for it, should be denied it." Here we have a doctrine, stripped of all veneer, that education in its upper reaches should minister only to an aristocracy of wealth.

It is a fact that there are almost no free universities any more in this country. The fees charged students by state universities have been increasing but they are not so large, nor have they increased so rapidly, as fees charged by private universities. If they must now be increased so that the students pay the full cost or approximately the tuition cost of higher education, then one of the original primary purposes of the state universities will have been defeated.

Further on, he concludes:

And now in conclusion let me say that both the public schools and the state universities represent the struggles of a free people to establish a system of popular education. The relationship between popular education on the one hand, and democratic society on the other, is one which the American people still feel with responding devotion. The freer the political institutions of men the more widely scattered are the schools for everybody; the more restricted the political institutions of men, the less widely scattered are the schools for everybody. The chief means of control in a democracy is some form of popular education. It is no mere accident of time and place that Americans have fostered public education for all.

These thoughts of Mr. Morey and President Coffman show that the field which the State University was intended to occupy, may be materially limited if higher fees are in prospect. In principle the requirement of fees from the individual in an educational institution supported by the state is objectionable; the living expenses while one is a college student, and in most cases earning nothing, but devoting all his time to his college work, are very heavy, and the student himself or his family must make a material sacrifice merely to maintain himself as a student. If the universities are now to require tuition in addition, then it may well be that many young people who are thoroughly fitted intellectually, morally and physically to take advantage of higher education, may be deprived of the privilege of doing so by this added expense.

It would be rather easy to present an argument against any tuition fees in a state supported institution such as the Ohio State University, but in making the argument, one now faces a condition rather than a theory, and remembering that the higher fees were assessed upon students a few years after the close of the great war, and because of a real exigency in public finance at the time, it must now be admitted that these fees have served the purpose of keeping the institutions generously open, and without them a crisis would have been faced a half-dozen years ago. So far it is not established that the fee scale has kept deserving students away; employment and money-making possibilities in this country have probably enabled students to mount the fee barriers without serious inconvenience.

Admitting that the fees already assessed are necessary, yet the argument should not be extended further, and the direst sort of emergency should present itself before fees assessable against the individual students are made higher. No such emergency is in sight, and it would seem that the people of the state should be willing to bear the further expense caused by the success of their own enthusiasm for learning. These state supported universities

have grown enormously beyond all prophecy, they are the people's institutions, they are performing many public services which would not otherwise, through any institutions which we possess, be performed, and therefore their place in the life of the state is unique. It is here respectfully suggested, therefore, that student fees should not be increased further.

*Respectfully submitted,*

GEORGE W. RIGHTMIRE, *President*

### SUMMARY — YEAR 1927-1928

#### TOTAL — YEAR 1927-1928

	Men	Women	Total
Current Total .....	7816	3406	11222
Summer Quarter .....	1623	1426	3049
Lake Laboratory .....	16	15	31
	9455	4847	14302
Duplicates in Summer Quarter .....	817	551	1368
	8638	4296	12934
Winter Courses in Agriculture (Poultry and Dairying) .....	108	4	112
<i>Grand Net Total</i> .....	8746	4300	13046
Commerce Extension Courses .....	714	165	879
<i>Grand Year Total</i> .....	9460	4465	13925

	AUTUMN, WINTER, SPRING QUARTERS			SUMMER QUARTER DUPLICATES		
	Men	Women	Total	Men	Women	Total
Agriculture .....	486	855	841	23	52	75
Applied Optics .....	37	1	38	—	—	—
Liberal Arts .....	1726	702	2428	119	55	174
Arts-Education .....	21	95	116	2	17	19
Commerce and Administration .....	1598	378	1976	116	37	153
Dentistry .....	284	1	285	—	—	—
Education .....	420	1478	1898	50	259	309
Engineering .....	1658	8	1666	143	—	143
Law .....	289	16	305	1	—	1
Medicine .....	309	20	329	6	—	6
*Pharmacy .....	175	20	195	11	3	14
Veterinary Medicine .....	100	—	100	6	—	6
Graduate School .....	713	332	1045	249	78	327
	7816	3406	11222	726	501	1227
Number that changed Colleges .....				81	43	124
				807	544	1351
Lake Laboratory .....				10	7	17
<i>Total</i> .....	7816	3406	11222	817	551	1368

	Men	Women	Total
* Degree Course in Pharmacy .....	170	20	190
Two-year Certificate Course .....	5	—	5
<i>Total</i> .....	175	20	195



## COLLEGE OF AGRICULTURE

Dean, ALFRED VIVIAN

### STUDENT ENROLLMENT

The total numbers of students enrolled in the regular courses of the College during the year were as follows:

Four-year courses in Agriculture .....	489
Four-year courses in Home Economics .....	352
Winter Courses .....	112
Total .....	953

### OTHER ACTIVITIES ON THE CAMPUS

A large number of meetings and short courses are held on the campus of the University during the College year. Some of them are enumerated here:

*Farmers' Week.* This event reached this year the highest enrollment in its history and the program was unusually strong. Over 200 speakers appeared on the program, and the interest seemed intense at all times. Perhaps the greatest interest of all was centered in the eleven o'clock periods which were devoted to the discussion of "farm relief" from the various angles from which the subject has been presented in the papers and in legislative halls. Grange Day, which was an innovation this year, was an unqualified success and was largely responsible for making Friday of that week the most largely attended last day in the history of Farmers' Week. The registered attendance was 6702.

*Pastors' School.* The regular annual school for rural pastors was held during the summer under the joint auspices of the College of Agriculture and the Ohio Council of Churches. The entire expense of the speakers and teachers other than those on our own staff was paid by the Council of Churches, so this school was held with practically no extra expense to the University. The school had an enrollment of 45.

*Bankers' School.* At the request of the Ohio Bankers' Association, the third two-day school for bankers was held on the campus during March. At the close those in attendance voted to request that the school be repeated next year. Attendance 75.

*Poultry School.* The school in poultry judging and related subjects brought to the campus even more enthusiastic groups than those of previous years. Attendance 125.

*Annual Shorthorn Sale.* The Ohio Shorthorn Breeders' Association was granted the use of the Judging Arena for its annual sale. A large group of people from Ohio and other states was in attendance. It would undoubtedly be of great value to the students in the College if the other breed associations were to follow the same plan. Attendance over 600.

*Annual Jersey Sale and Show.* The Ohio Jersey Breeders' Association held a similar sale in the Judging Arena for the first time. Attendance 500.

*100-Bushel Corn Club Picnic.* The members of the 100-Bushel Corn Club held a picnic and program on the campus during the summer, and spent some hours in reviewing the experimental work in corn breeding on the University farm. Attendance 50.

*Extension Conference.* In October an unusually successful conference of all the men and women in the Extension Service was attended by 175.

*Club Winners' Week.* In November the annual week for the winners in the 4-H Club work was held on the campus. The new method of selecting the winners has resulted in a decrease in the number who are brought to the campus, but makes possible better training for those who come. These young people are the potential leaders of their communities, and, we hope, received some inspiration from their visit to the campus. Attendance 457.

*Corn Breeders' Day.* The University and its farm were visited by a group of men who are engaged (in a number of states) in the scientific study of the problems of corn breeding. These men visited the experimental plots and held a conference on the subject of corn breeding, after which they proceeded to the Experiment Station at Wooster for a similar conference. Attendance 40.

*Home Economics Extension Conference.* A conference of one week's duration was held in May by all the Extension staff in Home Economics. Attendance 52.

*Ohio Baby Chick Fair.* During March was held the first Baby Chick Fair and conference. A strong program was presented. Attendance 1500.

*Cow Testing School.* Two weeks in May were devoted to training a group of young men for positions as cow testers for the Cow-Testing Associations and for the work in advanced registry. Attendance 43.

*Judging Contest for Vocational Students.* For the first time the annual judging contest for the students in the high-school courses in Vocational Agriculture was held at the University. It was a highly successful affair and the quality of the work done by these high-school students was a source of great satisfaction. The first day closed with a banquet at Pomerene Hall and an entertainment at Campbell Hall Auditorium. Attendance 1200.

*4-H Club Picnics.* A number of county 4-H Club picnics were held on the campus as in former years. Usually a short program is provided by members of the faculty following the luncheon. Total attendance over 2000.

It would be difficult to overestimate the value of these meetings on the campus to the state and to the University. The faculty of the College of Agriculture welcomes the opportunity to be host to these groups, and considers such work an important part of its service to the state. We feel that more definite recognition of this service should be accorded to us by the University.

#### ROTARY FUND

This year has again demonstrated the value of the rotary fund as a stimulus to better work on the part of the departments. While the amounts realized from sales are not large, they do give a little flexibility to the budget, and the fact that the money thus realized can again be used by the department encourages greater care and interest in disposing of the produce of the farm and gardens. We deplore a tendency to charge to this fund items which should be cared for from other financial sources.

#### FARM OPERATIONS

No additions to the University farm have been made during the current year. A large amount of work has been necessary to place the recently purchased land areas in condition for use and that work is far from being completed. Drainage and fencing are in progress but the funds for these purposes are practically exhausted. The Division of Farm Operations is a service division for the various Departments of the College and the report of that division gives some idea of the variety of services that must be rendered. The functions of this division are unique and peculiar to this College of the University.

#### RESEARCH

The report of the various departments shows a healthy growth in the interest in research. The new arrangement for cooperative research between the University and the Experiment Station has stimulated research and promises a solution to one of the most perplexing problems that the College of Agriculture has had to face. A college of agriculture that does not provide its staff with facilities for research cannot hope to hold a foremost place among the colleges of the nation. At the present time five departments of the College—Agricultural Engineering, Farm Crops, Home Economics, Rural Economics and Soils—have arrangements by which part of the salaries of some members of the departmental staffs are paid by the Experiment Station for research work under the general supervision of the Director of the Experiment Station. This arrangement seems to be working to the satisfaction of all concerned and it is to be hoped that it can eventually be extended so that all departments may be placed on this cooperating basis.



## OUTSIDE SERVICE

From their inception the Agricultural College or divisions of the Land Grant Colleges and Universities have considered themselves as great service stations for the states in which they are located. Probably no other faculties than those of Agricultural Colleges or divisions have so many calls on their time for gratuitous services. Our College of Agriculture, with the others in its class, prides itself upon the extent and value of these services and is gratified at the opportunity to serve. Those not conversant with the subject, however, cannot realize the tax that this service makes upon a resident teacher's time, no matter how willingly rendered. I feel that this service is of tremendous value to the state, and am making an appeal to have it taken into consideration when the value of a teacher's services is being appraised.

## EXTENSION SERVICE

The law requires that a report of the Extension Service be made at the end of the calendar year. That report for the year 1927 is in your hands as required. The statements in the various department reports herein are primarily from the point of view of the resident staff, all of whom do some extension work. Under our organization the college department is responsible for the subject matter which is "extended" and the projects are the result of the joint action of the extension specialists and the resident staff. The demand for extension services constantly increases and the work seems to be continually growing in favor. The quality of the service, I feel, is steadily improving.

## THE STATE FAIR

The exhibit at the State Fair in 1927 was a credit to the University. The plan of having each department feature one phase of its work was again followed to advantage. This exhibit brings a great deal of publicity to the University and apparently attracted as much attention as any other feature of the fair.

## THE CORN BORER

The situation arising from the invasion of the state by the European corn borer has continued to place an extra burden of work upon our staff, Resident Teaching as well as Extension. Every department is affected in some way by this situation and the necessity for special outside service has made the task of teaching the regular courses more difficult. The corn borer presents such a menace to the agriculture of the state that some temporary disruption of the regular college routine is justifiable. In time this work will be definitely organized under a special staff.

## LACK OF ROOM

Many of the departments of the College have been suffering for some years for lack of room. More laboratory space is needed in several departments and the office space of the College as a whole is woefully inadequate. The University has one of the largest Agricultural Extension Services in the nation and yet the space devoted to that work in this institution is only a small fraction of the space available to the service in other states of our rank in volume of work accomplished. The College is badly in need of a large laboratory building to house several departments and thus release space in the existing buildings for the remaining departments.

## WORK WITH FRESHMAN STUDENTS

The Dean and the Secretary have continued during the year to give a large amount of attention to the problems of the freshmen in the College. That something has been accomplished in this line is evidenced by the low freshman mortality of this College. The new "experience blank" introduced last year has proven of considerable worth. It has been found that most of the withdrawals in this College are due to financial reasons, or because the students are needed at home. Many of these withdrawals are only temporary, and the students return at later dates to complete the course. Another large number of our students plan to come to college only during the Autumn and Winter Quarters, so they can work at home during the spring and summer. The quarter plan has been a boon to such students. A very large proportion of the students of this College pay a part of all of the expense of their college education from their own earnings. The appointment of a Junior Dean for next year will make it possible to give still more time and thought to the problem of the students in the first two years of college work.

## NEW FORESTRY CURRICULUM

In April the faculty adopted a two-year curriculum in forestry, covering the ground of the first two years of the usual collegiate curriculum in forestry. Several colleges and schools of forestry have agreed to give full credit for this work so that students completing the two years in this College may enter those schools with junior standing. It is hoped that this two-year curriculum will meet the needs of those students who wish to pursue at least a part of the course in forestry at their home University.

## TRANSFER OF LANDSCAPE ARCHITECTURE

This year the work in landscape architecture was transferred from the department of Horticulture in this College to the department of Fine Arts in the College of Education. This resulted in the virtual transfer of about fifty students from this College to another college.

## PERSONAL ACTIVITIES OF THE DEAN

The outside calls for service fall especially heavily upon the Dean of the College. He has filled about seventy speaking engagements in the state during the year, and has had an unusual number of special committee meetings and conferences to attend. He has accepted invitations to speak in four other states. He broadcasted a series of talks from the University radio station WEO on the second and fourth Wednesdays of each month. All this was done in addition to the usual administrative duties on the Campus.

The details of the activities of the departments in the College will be found to be rather adequately presented in the reports which follow.

## EXTRACTS FROM THE REPORTS OF THE DEPARTMENTS

## DEPARTMENT OF AGRICULTURAL CHEMISTRY

## RESEARCH

Three students majoring in Agricultural Chemistry completed the requirements for the Ph.D. degree during the year.

Mr. James E. Webster's research was done largely at the Boyce Thompson Institute for Plant Research. His problem was suggested and approved, however, by Dr. T. G. Phillips.



formerly Professor of Agricultural Chemistry at the Ohio State University. Mr. Webster's experiments were an attempt to discover something of how growing plants convert the nitrogen compounds of the soil into the protein compounds of the living plant. His measurements are a valuable addition to the solution of this important problem.

Mr. Russell E. Davis has completed experiments on the utilization by animals of tributyrin. This problem is fundamental to an understanding of the utilization of fats. Tributyrin is exceedingly bitter, irritating to the stomach, and toxic in general. When it reacts with other fats to produce mixed glycerides the products so formed are bland in flavor, non-irritating, and non-toxic. Mr. Davis' experiments were directed at finding the digestibility of tributyrin and its fate in the body.

Mr. K. Kitsuta has completed experiments on the effects of various vitamins on the storage of calcium and phosphorus in the animal body. Vitamins A, D, and C appear to be essential for the proper growth of both bones and muscles, while vitamin B is necessary primarily for the growth of muscles and soft tissues rather than for bones.

A rat colony of about 200 animals has been maintained and used principally in studying the relative food values of whole-wheat flour and patent flour.

#### PUBLICATIONS

"The Nitrogenous Constituents of Hen Urine", Russell E. Davis; *J. Biol. Chem.*, 74:509-13, 1927. *The Nitrogen Metabolism of the Soy Bean*, James E. Webster, Ohio State University Thesis. *The Occurrence of Hydroxy Fatty Acids in Coconut Oil*, J. Cleve Carroll, The Ohio State University, M.Sc. Thesis. *Milk—Its Importance as Food*, J. F. Lyman, Bulletin 67, Agr. Extension Service, The Ohio State University.

### DEPARTMENT OF AGRICULTURAL EDUCATION

#### RESEARCH

Progress in our program of research has been continued with just cause for pleasure over results already attained. The research undertaken last year to determine the number of potential departments in the state has been concluded. The study of "teacher load" of teachers of vocational agriculture has been extended to include data from a third week of activities. These data have been organized into a report for the state supervisor.

New research undertaken has included a study of the present occupation of ex-students of agricultural departments in the state who have left the high schools in the last five years after completing one or more years of vocational agriculture. As a basis for this study, a sampling of 15 per cent of the departments was made and data gathered through the teachers of vocational agriculture. This study has been summarized.

A study that has been undertaken has been termed "The Measuring of Agricultural Progress" in which it is proposed to study agricultural progress through the enterprises and phases of farming which make up the farm practices of any given community. The first measurement suggested was that of swine management by determine the quantity of pork production per brood sow kept. Other measurements will follow as rapidly as they can be utilized by the instructors.

The outstanding new research of the year is a study of project practices directed by Professor Nisonger. I have no hesitancy in ranking this research as unequalled in the United States in the field of project studies. He is ascertaining, by using a 25 per cent random sampling of the departments, the practices employed and the accounting followed in all of the projects in potato production, corn production, swine management, poultry management, dairy cattle management and sheep management. He proposes to use whatever he finds this year as a base line or starting point and then to compare in succeeding years the results obtained and thus measure our progress, if any, in the light of approved economic accounting and production practices. Results already obtained justify the high rating given to this study, not so much on the basis of satisfactory project accounting and commendable practices found as on the basis of fact-finding which gives the teachers means of definitely checking on the accounting and the practices used by the pupils under their supervision.

### DEPARTMENT OF AGRICULTURAL ENGINEERING

#### RESEARCH

The establishment of a department of Agricultural Engineering with the Ohio Agricultural Experiment Station and the advantage of its being located at the University has made it possible to start a research program.

The following projects are under investigation.

*The Combine Harvester in Ohio*; McCuen, Silver  
*Farm Building Value Investigation*; Stahl  
*Soft Corn Storage*; Stahl  
*Feed Processing for Steer Fattening*; McCuen, Bohstedt  
*Harvesting Sweet Clover in Ohio*; Reed, Silver.

These projects were started last July 1, and only preliminary data have been obtained.

#### PUBLICATIONS

McCuen, C. W.: "The Combine in Humid Area"; paper presented before Thresher Division of National Farm Equipment Manufactured, at Chicago meeting, November 2, 1927; mimeographed first and sent to all members of association, later printed and distributed. "The Implement Company that has a Rural Electrification Department", *Farm Implement News*, March, 1928.

C. O. Reed: "Machinery in Corn Borer Control", *Agricultural Engineering*, February, 1928, Volume 9—No. 2. "Agricultural Machinery and Implements", contribution to new edition *Encyclopaedia Britannica*.

E. A. Silver, R. D. Barden: "Corn Harvesting Methods for Corn Borer Control", *European Corn Borer Leaflet No. 13*. The Ohio State University. "Construction and Use of Stalk Shavers", *European Corn Borer Leaflet No. 13*, The Ohio State University.

H. F. Twitchell: Revised bulletins, "Just Kitchens", No. 66.

#### DEPARTMENT OF ANIMAL HUSBANDRY

##### CHANGES AND ADDITIONS IN CURRICULUM

The Council on Instruction approved the Advanced Dairy Cattle Judging course, Animal Husbandry 610, and the work is being given the Spring Quarter, with eight students.

The retailing of meats was resumed this year, giving the students in the Meats courses experience in following the work through to the ultimate consumer. Announcement in the Daily Bulletin brought a liberal Campus patronage, and it is hoped that the national campaign to promote "quality in meats" was advanced thereby.

#### RESEARCH

Mr. Edwin E. Heizer, a graduate assistant, worked out a very unique and valuable master's thesis last year under Professor Salisbury's direction, on *Breed Development and Its Relation to Prices Paid for Dairy Cattle at Public Auction*. He is continuing the same line of investigation for his doctor's degree. It is a study of the factors influencing prices of dairy cattle in the United States, and involves an exhaustive review of all agricultural news publications. The data collected to date was presented during the last Farmers' Week program, and received very much favorable comment.

Mr. F. H. Helmrich, also a graduate assistant, has been conducting an experiment under Professor Coffey's direction to determine the effect of feed on the quality of pork. Thirty-six feeder pigs were divided in six different lots, and combined in the rations were varying portions of soybean oil meal. Rate and economy of gains, as well as physical appearance, were checked, and the pigs finally subjected to the slaughter test. Soybean oil meal causes soft pork, but it is of comparatively low cost. It is therefore of importance to know the maximum amount that may be fed without injuring the quality of the product.

#### LIVE STOCK

The Little International, the student live stock show, sponsored by the Saddle and Sirloin Club, on February 25, made a big advance over previous years, both in the matter of number of participants and in the attendance; also in the students' achievements in fitting and showing the live stock. The special features were especially good this year and the audience seemed well pleased with the show. About four hundred from the Campus and city turned out.

The inventory shows the following numbers of animals now in possession of the department.

Dairy Cattle .....	89
Beef Cattle .....	92
Horses .....	32
Sheep .....	179
Swine .....	212



## DEPARTMENT OF BOTANY

## RESEARCH

The research activities of the various members of the department were as follows:

MR. TRANSEAU: During the Spring and Summer of 1927 the principal corn areas of Europe were visited and the relation between corn borer damage and ecological habitats studied under the joint auspices of the U. S. Bureau of Entomology and the Ohio State University. Much time has been spent during this year writing up the results of this survey. He also studied "Original Vegetation of Ohio" with Mr. Sampson, and produced a vegetation map of Europe on a large scale.

MR. SCHAFFNER: Continuation of studies on sex reversal in hemp and other plants. Fluctuations in Equisetum. The nature of the flowers of Equisetum. Further studies in Plant Taxonomy.

MR. STOVER: Studies of Tomato Streak, Rye Stem Smut and Apple Scab.

MR. SAMPSON: Succession in the Swamp Forest Formation of northern Ohio. The Mixed-Mesophytic Forest of northeastern Ohio. Objective tests for General Botany. Natural Vegetation in relation to soil types. Natural Vegetation of Ohio.

MR. WALLER: Study of the plants used in stabilizing the Miami Conservancy dams. Relations of flax to the environment.

MR. TIFFANY: Monograph of the Genus Oedogonium. Algae of Lake Erie.

MR. SAYRE: Physiology of Corn root rot. Physiology of stomata. Development of chlorophyll in light.

MR. HUMPHREY: Sexuality and Reproduction of Coprinus (with Mr. Stover).

MR. MEYER: Studies of Leaf Saps.

MISS LAMPE: Development of Corn Endosperm. Periderm formation in Geranium. Abscission of Cottonwood Twigs.

MR. CAMPS: Physiology of Sex (with Mr. Schaffner).

MISS MITCHELL: Microchemical study of the Hemicelluloses (with Mr. Sampson).

MISS ACKLEY: The Algae of Michigan (with Mr. Transeau and Mr. Tiffany).

MISS BROWN: A monograph of the Genus Vaucheria (with Mr. Transeau).

MR. MORRIS: Microchemical Tests for Sugars (with Mr. Sampson).

MISS VANCE: Imbibition studies with Kelp (with Mr. Sayre).

MR. GORDON: Floristic Composition of the Ohio Flora (with Mr. Transeau).

MR. BREWER: Chromosomes and Sex Reversal (with Mr. Schaffner).

MISS JOHNSON: The Gasteromycetes of the North Central States (with Mr. Stover).

MR. THUT: The Lifting Power of Evaporation (with Mr. Sayre). The Transpiration Stream in Submerged Plants (with Mr. Transeau).

MISS SHAW: Anatomy and Chemical Composition of the Fruit Coats of Nelumbo lutea (with Mr. Sampson).

MR. LIMING: Fruit Spot of Apple (with Mr. Stover).

MR. MILLER: Apple Rust (with Mr. Stover).

MR. STEARNS: Development of Apple Scab in Lawrence Co. (with Mr. Stover).

MISS COLLETT: Effects of Length of Day on Homozygous Strains of Corn (with Mr. Waller).

MR. ISAACS: Life Cycle of Iris (with Mr. Waller).

MR. MCCLURE: Chinese papers and Methods of Manufacture. A Monograph of the Bamboos (with Mr. Waller).

MR. PAUL KRAMER: Movement of water into Conductive Tissue of Stems (with Mr. Transeau).

MR. MCPHERSON: Size and Spacing of Stomata in certain Plants (with Mr. Sayre).

MISS HENDERSON: Mosses of Ohio.

MISS WILLIAMS: Relation of Plant Industries to Climatic Plant Formations (with Mr. Waller).

MISS MOON: Sources of Alkaloids (with Mr. Waller).

## OTHER ACTIVITIES

MR. TRANSEAU: Attended Corn Borer conferences at Washington, Nashville and Ithaca. Member Committee on Agriculture, National Research Council. Recently elected Member at large, Division of Biology and Agriculture, National Research Council. Member Executive Committee of the Plant Institute. Collaborator, U. S. Bureau of Entomology.

MR. SCHAFFNER: Assisting Department of Botany of the Ohio Experiment Station in producing a Manual of the Weeds of Ohio. Making preparations for the publication of a new Catalogue of Ohio Plants.

MR. STOVER: Cooperating in Spray Service Work. Writing Plant Disease Notes with A. L. Pierstorff.

MR. SAMPSON: Member Executive Committee of the Plant Institute. Revising Course in General Botany with emphasis on objective tests, discussion questions and laboratory diagrams.

MR. WALLER: Collecting species of Iris that will live in Ohio. Treasurer Ohio Academy of Science. Chairman, Entertainment Committee Faculty Club.

MR. TIFFANY: Business Manager *Ohio Journal of Science*. National Editor, *Gamma Alpha Record*. Collaborator for "Algae", Biological Abstracts. On staff of the Lake Laboratory.

MR. HUMPHREY: Preparing and drawing diagrams for General Botany Laboratory Manual.

#### PUBLICATIONS DURING 1927-1928

TRANSEAU, E. N. "Vegetation Types and Insect Devastations," *Ecology*, 8:285-288, 1927.

SCHAFFNER, J. H. "Sex-limited Characters and Allosome-like Heredity," *Ohio Jour. Sci.* 27:105-120, 1927.

\_\_\_\_\_. "Sex and Sex-determination in the Light of Observations and Experiments on Diecious Plants," *Amer. Nat.*, 61:319-332, 1927.

\_\_\_\_\_. "Principles of Plant Taxonomy IV," *Ohio Jour. Sci.*, 27:249-261, 1927.

\_\_\_\_\_. "Extraordinary Sexual Phenomena in Plants," *Bull. Torrey Bot. Club*, 54:619-629, 1927.

\_\_\_\_\_. "Control of Sex Reversal in the Tassel of Indian Corn," *Bot. Gaz.*, 84:440-449, 1927.

\_\_\_\_\_. "Furthering Experiments in Repeated Rujjuvenations in Hemp and their Bearing on the General Problem of Sex," *Amer. Jour. Bot.*, 15:77-85, 1928.

\_\_\_\_\_. "Collecting Horsetails Along the Way," *Amer. Fern Jour.*, 18:14-21, 1928.

\_\_\_\_\_. "Principles of Plant Taxonomy V," *Ohio Jour. Sci.*, 28:69-85, 1928.

STOVER, W. G. *The Control of Garden Insects and Diseases*. Extension Service Bulletin 76, 1928. (With T. H. Parks and A. L. Pierstorff)

SAMPSON, H. C. "The Primary Plant Associations of Ohio; their Distribution and Significance as Habitat Indices," *Ohio Jour. Sci.*, 27:301-309, 1927.

WALLER, A. E. Review: *Weaver's Root Development of Vegetable Crops*, *Ecology*, 9:96-99, 1928.

TIFFANY, L. H. and TRANSEAU, E. N. "Oedogonium Periodicity in the North Central States," *Trans. Amer. Micros. Soc.*, 46:166-174, 1927.

TIFFANY, L. H. "The Algal Genus *Bulbochaeta*," *Trans. Amer. Micros. Soc.*, 47:121-178. Plates XIV-XXIII, 99 figs. 1928.

SAYRE, J. D. "A Recording Atmometer," *Ecology*, 9:123-125, 1928.

ANDERSON, D. B. "A Microchemical Study of the Structure and Development of Flax Fibers," *Amer. Jour. Bot.*, 14:187-211, 1927.

MEYER, B. S. "The Measurement of the Rate of Water Loss from Leaves under Standard Conditions," *Amer. Jour. Bot.*, 14:582, 591, 1927.

\_\_\_\_\_. "Studies on the Physical Properties of Leaves and Leaf Saps," *Ohio Jour. Sci.*, 27:263-288, 1927.

WILLARD, D. J. *An Experimental Study of Sweet Clover*. Bull. Ohio Agric. Exper. Sta. 405, 1927.

BRAYDES, G. W. "A Survey of Rates of Water Loss from Leaves," *Ohio Jour. Sci.*, 28:99-118, 8 figs. 1928.

LIMBER, P. D. "Fusarium moniliforme in Relation to Diseases of Corn," *Ohio Jour. Sci.*, 27:232-246, 1927.

#### DAIRYING

##### RESEARCH

In Dairy Manufacturing work has been done to determine a uniform method of measuring the cream line in milk and the factors that affect the creaming of milk.

The effect of different amounts of rennet upon the quality and flavor of American cheese has been given attention during the year.

The Cream Improvement and Swiss Cheese projects have been continued.

In Dairy Production there has been a continuation of work in progress for some time, especially the value of minerals in the dairy ration, the quality of hays, and the effect of sunlight and ultra-violet rays upon the quality of milk.

Observations have been made of the effect of certain feeding practices upon reproduction, since uncertain breeding is a cause of great economic loss. Sprouted oats and barley, germ of



wheat and germ of corn, and the hydrolized feeds have been used with such good results that the Department feels it is important to continue this work.

The problem of determining the time for cutting and the methods of curing hays to insure the best quality for milk production has been given much attention. Our investigational work is carried on in the field under practical conditions, and we are finding that hays grown on soils high in minerals and harvested at an early stage of growth and quickly cured give the best results in high milk production and reproduction.

#### OFFICIAL TESTING

With the object of raising to a higher standard the average production of the dairy breeds and securing an authenticated and permanent production record to which reference can be made when selecting animals for breeding, the cattle clubs and breed associations have established a Register of Merit and Advanced Registries.

The system enables the breeder desirous of improving his herd to ascertain the true dairy ability of his cows, not only to his own satisfaction but that of his customers as well, and helps establish the value of herd sires. Official testing does more toward introducing efficiency into dairy methods than any other one thing.

Authenticated tests are tests periodically supervised by a representative or approved agent, known as the official tester, who is trained and appointed by the Dairy Department of the State Agricultural College in each state. The supervisor certifies to the weight of the milk and the per cent of butterfat that it contains, as determined by the application of the Babcock test.

The herd test adopted by the Ayrshire Breeders Association has been watched with particular interest by the other breed associations. This plan of testing was inaugurated by that association more than a year ago. January 1, 1928, the Holstein-Friesian Association adopted a herd test plan, and July 1 the American Jersey Cattle Club will institute what is known as the Herd Improvement Registry.

The prime object of the herd test is to obtain a record of the entire herd for the purpose of making definite herd improvement. It is designed to give the breeders a test that can be recognized as an official herd average and can be recorded and published as such. Under the plan all cows in any herd are tested, so that the producing ability of each individual cow may be ascertained.

Ohio Breeders are evincing great interest in this plan of testing. There are very few herds of Ayrshires in the State, but last year twelve herds were tested under this plan. Nearly thirty Holstein breeders have entered their herds and we feel assured that a large number of breeders of Jersey cattle will take up the work in July. Indications are that this will be an extremely popular form of testing.

The test supervisors are sent out by this Department and all records received, checked, and forwarded to the National breed associations, who keep all records and exercise a general supervision over the official testing. Students supervise many of the tests, a practice which not only furnishes them employment but also gives them a wonderful opportunity to gain practical knowledge of dairying which is possible in no other way.

The amount of testing has been slowly increasing during the past year, and indications are that with the institution of the herd-test plan, the increase will be greater the coming year. 51 different test supervisors have taken care of the testing. Since the time required each month for the cows on yearly test has been reduced from  $2\frac{1}{2}$  to  $1\frac{1}{2}$  days, the number of supervisors required for the work is smaller. Some of the tests have been made by students over the weekends and part of them have been made by testers for cow-testing associations.

Three thousand and eleven different cows were tested, most of them each month of the year, which would make a total of over 36,000 official tests. Seventy-one retests and check tests have been made.

#### FARM CROPS

##### RESEARCH

At the beginning of the fiscal year all teaching members of the department, except the graduate assistant, went upon part-time appointment on the staff of the Department of Agronomy of the Agricultural Experiment Station. The division of time between the University and Experiment Station is budgeted as follows:

Mr. Park. Two quarters teaching; one quarter research.

Mr. Willard. Two quarters teaching; one quarter research.

Mr. Borst. One quarter teaching; two quarters research.

Mr. McLaughlin is on full-time research with half salary from each institution.

Mr. Meyers is on full-time research with part salary from the University, the Experiment Station, and the U. S. Department of Agriculture.

Mr. Harvey is on full-time Experiment Station appointment as field assistant.

In May Mr. L. R. Jergenson was assigned by the Bureau of Plant Industry, U. S. Department of Agriculture, to the corn-breeding project with headquarters in the Department of Farm Crops.

In conference with the Wooster members of the Agronomy Department staff, the responsibility for particular research projects on each of the major crops of the state was divided among the various men as seemed logical. It is believed that this will avoid undesirable duplication of effort and will promote effective cooperation between the institutions and individuals.

Major projects for which the chief responsibility is located at Columbus are:

- Corn Breeding
- Oats Breeding
- Barley Breeding and cultural work
- Soybean Investigations
- Sweet Clover Breeding
- Sweet Clover Investigations—cultural
- Hay Investigations

*The Corn Breeding Project.* One significant change made during the year has been the unification of all the corn-breeding work in the state with headquarters at Columbus. This is a result of development under the new cooperative arrangement with the Experiment Station. Major corn-breeding projects are in progress on the Experiment Station Farm at Wooster, under corn-borer conditions at Bono near Toledo, and on the University Farm at Columbus.

The largest single project in this work is an attempt to determine the possibility and practicability of increasing the yield of corn by the production of synthetic varieties. About 1500 cultures are handled annually and 10,000 hand pollinations are made in carrying on this study.

Tests of hybrid combinations of inbred lines under field conditions are conducted at Wooster, Columbus, and Bono with less extensive tests on three of the county experiment farms. In addition to the Ohio crosses, these tests include the most desirable material from eleven other states. Crosses in this list have consistently outyielded the best commercial varieties by as much as 20 per cent. Commercial production of the seed of some of these crosses has already started.

One important result of the work to date is the finding that the later developing types of corn carry considerably fewer borers and show less damage than earlier, more rapidly developing sorts. This fact is fundamental to the study of other factors.

*Wheat Breeding.* The present season has afforded an unusual opportunity to observe differences between wheat varieties in resistance to winter injury. About 150 new strains of wheat are being grown in the nursery-test plots of the department. These have been secured from crosses made some 12 years ago by selecting among the hybrid progeny for high yielding desirable sorts. The greatest interest in these at present centers about the remarkable winter resistance that many of them possess. During the past winter our best standard varieties were killed by unfavorable weather conditions many of these new strains have come through with little or no injury. One of them has outyielded Trumbull, Ohio's most popular variety, by several bushels an acre and has withstood winter conditions that have made Trumbull nearly a total failure.

*Forage Crops.* In the forage crop experiments, the results of greatest interest are in the clipping test, the experiments on the stage of harvesting alfalfa variety trials. The latter are showing important differences this spring for the first time.

The results of clipping sweet clover were published last summer. This work is being enlarged and extended to alfalfa and red clover.

On September 13 a conference of corn workers under the Furnell Act met in Ohio to study the corn-breeding work, especially in its relation to the corn-borer problems. They spent a day at Columbus and went later to Wooster and Bono. In addition to the Ohio people 26 men representing 13 states were present.

## FARM OPERATIONS

### REPORT OF THE UNIVERSITY FARM—1927

The University Farm Operations for the calendar year of 1927 were conducted on about the same land which has been operated as farm land for several years. Some additional land was rented and operated in connection with this land because the Animal Husbandry Department required more area for cattle. This rented land which was handled without any new equipment took some additional man labor and materials such as seed, gasoline, oil, twine, baling wire, etc., but the value of the crops produced was far more than the extra costs involved.



The Farm teams and equipment help haul the manure and clean up the lots when the Animal Husbandry teams get behind with their work. Our men and teams are called at various times for classroom work, for team-work demonstrations, etc. We always try to help when requested.

The Horticulture Department needs considerable extra labor and equipment. We plow and disc for them with tractors and furnish extra teams for manure spreading and spraying.

This spring (1928) we have put in about 15,000 feet of drain tile for them in the Salzgeber tract; 13,000 feet were 4-in., over 1000 feet were 18-in., and there were about 250 feet each of 8-in. and 20-in. tile.

The Farm Crops Department and the Soils Department take care of their work without much extra help from us, except in harvest time when we cut grain and thresh for them, furnishing extra labor and equipment needed.

The Botany Department have a few acres of small plots near the Botany and Zoology Building which our men manure, plow, and cultivate each year. During the year our men probably spend as much as one full month with teams caring for these Botany plots, some of which is in cooperation with the United States Department of Agriculture.

The Poultry Department needs considerable help to keep their premises in shape. We plow and seed lots in the spring and harvest the crop if any is permitted to mature. It requires men and teams several times a year to clean the houses and haul the manure to the farm land where it can be plowed under. Our men and teams haul fuel for the Poultry buildings, unload and haul feed, mow the open grass spaces with the mowing machines, etc. We furnished the equipment and helped to move the buildings from the old Poultry Plant location to the new location, the Department paying for most of the labor.

In the establishment of the Animal Husbandry Department west of the river, the enlargement of the Poultry Department, the allotment of various lands to Farm Crops Department, and with the purchasing of additional small tracts of land adjoining the farm land, a large amount of unfinished work has shown up and it seems to fall to the lot of Farm Operations to take care of it, as far as possible. I think all who are interested in the University's possession of land feel that these holdings should be outstanding in appearance when one approaches the limits of the farm. Assuming that it is the logical duty of the Farm Operations Division to care for this appearance as much as possible we have done many items of work that were not for crop production, in the way of cleaning up the premises. Here are listed some of the things we have done since our operating center was moved west of the Hocking Valley Railroad in the summer of 1924.

Some Farm Improvement Work Done: Moved a six-room house, completely remodeled it; excavated basement under entire house; built foundation walls; cemented basement; put in drainage and sewage system; built septic tank; dug and built 100-barrel cistern with filter; built garage with cement floor; built concrete walks around house; graded and seeded lawn; graveled driveway; replastered and papered inside of house; painted all floors; built two new chimneys; retinned entire house; painted outside two coats, and a year later another coat; built large front porch with cement floor; built in kitchen cabinet with sink; built cupboards and bins in basement storage room; built in a new inside basement stairs; drove 53-foot well for water supply. This house remodeling was all done with farm labor except putting on the new plaster which was done by union labor.

Repaired water storage tank at Kautz house, occupied by Charles Pugh. Installed septic tank and sewage system to foundation wall of house. Built fruit storage cupboard in basement. Built cement walks about house and used old brick walks for a floor in the garage. Tiled garden thoroughly, using about 150 rods of tile.

Moved a barn and made it into a double garage in rear of double house. Put it on a concrete foundation, put in cement floor, and cement walks to the house.

Partitioned off workshop in Pavey Barn and cemented floor of the entire building. Built unloading dock at southwest corner of Pavey Barn, to load and unload farm machinery and tractors on the truck and trailer and to provide a gravity unloading place for gasoline delivered for farm work. We wired the Pavey Barn once for use of a small lighting plant, but this was later removed and wiring in conduit done by University electricians. In our farm workshop much work has been done by our men getting the equipment installed, as well as making much of it. The cost of shop equipment to the University is far below \$1000.00, and we can do almost everything in the way of repairs to farm machinery that does not take special machines.

We try to fully repair our machinery each year and paint it at least once every two years. Our men completely rebuild wagons, wagon beds, etc., during the winter months.

We have excavated the basement of the Waterman house about sixteen inches and cemented the floor of the entire basement. Installed drainage for the basement, well, and cistern. Built a new 150-barrel cistern with filter. We had to tear down the old barn on



the Pheneger farm and use the lumber to rebuild the barn at Waterman farm for the Farm Horses. This required a large amount of work and we have used this barn for four years. We have cleaned up the wooded pasture on Waterman farm, cutting dead and dangerous trees, burning brush, etc.

We built the fence on Waterman farm along Starr Road about 125 rods and along south side of wood lot 120 rods with our farm labor, not from fence appropriation. We also gave the posts three coats of white paint. We tiled the four acres at the cross roads, Lane Avenue and Lisle Road, with farm labor, about 250 rods. Also the Hartman field of twelve acres with about 500 rods of tile. We put about 100 rods of tile of various sizes in Waterman farm three years ago, and two years ago we put in about 200 rods of tile—one-third were 15-in., one-third were 12-in., and one-third were 10-in. tile. Last year we put about one hundred rods of four-inch and five-inch tile in the pastures of the Mary A. Hess farm.

We also dug the water line from the Horse Barn to the Poultry Plant and furnished extra help to get the drainage system in the Poultry Plant. We dug and filled a water line from north of Dairy Barn to east end of Horticulture orchard. We also dug a water line trench from south of Dairy Barn to the shop being fitted for Mr. Garrett to work in. Our men also moved this building from the rear of Uncle David Fyffe's residence to its present location two years ago, and last fall laid the foundation and floor, and moved the building onto the foundation.

Our farm men installed the new Truck Scale at Animal Husbandry Buildings, and have worked on roads and gutters to keep them reasonably free from water holes. We have cleared the building foundations, cisterns, and wells, from the sites in the Wood Addition at Laneview and from the Hartman Tract. It took four men almost three weeks to clear up the Hartman place for cultivation.

Our men have to keep about five or six miles of roadside ditches and fences clear from weeds and rubbish, keep the farm tile drains open and working, drag roads, pick stones from fields, haul cinders for roads and lots, haul stone and gravel, and many other jobs in the maintenance of the University holdings not here enumerated.

In the fall of 1927 we completely overhauled the Buckeye-Traction Ditcher and replaced the old one-cylinder motor with a secondhand Cletrac motor that we had purchased two years ago. The weather prevented doing much ditching until the late winter, but following March 1, 1928, almost three thousand rods of tile of various sizes were put in the ground in a period of ninety days. An effort had been made to do some ditching in the fall of 1927 but the ground was so dry that very little progress could be made.

We then turned our attention to Farm Fencing and during the late fall dug holes and poured concrete for the bases of twenty-four brick posts for ends and corners. About six thousand pounds of sand, stone, and cement were used in each. Heavy reinforcing was also used in the construction. During the spring of 1928 a brick layer was employed to lay about two hundred bricks on each of these foundations, and during the summer these will be filled with concrete and capped.

During the winter months about eight hundred rods of fence rows along the road were cleaned up and graded. The red cedar posts were shaved and trimmed and given one coat of white paint in the shop. They were then set one rod apart in the fence row and ready for the woven wire fence as soon as the end posts are filled and ready.

We have been doing our own horseshoeing since December, 1926. Since Mr. H. L. Bozart, one of the teamsters, had some experience in shoeing horses, we equipped a shop for him in the old cement block building at the Waterman farm. He has gained experience during the past year and now does work equal to that of the average blacksmith. Doing our own shoeing saves the teamsters from losing a half-day's time in going to the shop.

The farm crops grown in 1927 were far from satisfactory. A very wet season prevented the timely planting of corn on ground that was undrained and we did not finish planting until about June 16. We got some short season corn but it was not highly satisfactory. The yield was low but the maturity fairly good. The old Reid's Yellow Dent corn did not mature sufficiently to make much feed and it stayed wet all winter, in the cribs, a large part of it spoiling beyond feed usage.

The wheat, oats, and barley were quite satisfactory crops, and the yield and quality were above the average in the main. An early May flood injured the oat crop on the South Field (58 acres) and the yield was less than half a crop, about 25 bushels per acre.

The root crop was entirely lost because of the weather, and the cabbage crop was very light. We also lost about 12 acres of corn because of the poor season for the kind of land planted.

The University Farm now consists of perhaps poorer land than ever before, so that crop production is far from satisfactory. The impoverished soil does not respond readily to treatment. We are draining it as fast as we can, liming it at the rate of two tons of



ground limestone per acre, and with the manure produced here and some additional commercial fertilizers we hope to get the production up to a more satisfactory basis. The cold and sad condition of the soil seems to retard crop maturity and unless seasonal conditions are about right we do not get much of a crop.

On the basis of our new layout in fields, we are starting the practice this year of applying all manure to corn land and using some commercial fertilizer with the small grains and grass seedings. Since we have no storage for special grain crops we have temporarily discontinued growing Soy beans and are holding our crops to the ordinary farm grain and hay crops. Sudan grass is being used for emergency crop and to fill in the blank spaces.

## HOME ECONOMICS

### FOODS AND NUTRITION DIVISION

The work of the foods and nutrition division has continued to be under the direction of Miss McKay.

The regular courses for students majoring in home economics have been continued throughout the year. An opportunity has been given a number of advanced undergraduate and graduate students to participate in the research projects which are being carried on.

The courses for students whose main interests are not in the field of home economics have reached more students during the past year than before. Increased registration in Home Economics 409, 419, and 609, as well as in the course given to underweight women has extended the influence of the department. At their request, advice concerning food selection and meal planning has been given to a number of young men who have charge of the food for fraternities. Menus for the Home Economics nursery, house, and apartment have been planned in connection with students' work. Menus for the city day nurseries have also been planned. A student is cooperating in making food plans for a summer camp.

### TEXTILES AND CLOTHING DIVISION

In all the textile and clothing courses emphasis is being placed more and more on helping the student to apply the principles of art, of hygiene, and of economics in such a way as to plan a suitable wardrobe at minimum cost. Sound practices in the budgeting of clothing allowances and in the buying of materials and of commercially made garments are being established.

Miss Ryan has continued to act as chairman of the textiles and clothing division.

### HOUSEHOLD MANAGEMENT DIVISION

The courses of this division have so far included household management, house furnishing, and the buying of textiles and house furnishings. These have all been taught by Mrs. Walker, who has had only part-time help of a graduate assistant, and of the graduate student and the staff members who have acted as chaperons in the apartment and house which are used as laboratories in household management.

The department is looking forward with interest to the addition to this division of courses which deal with household equipment. One such course, Agricultural Engineering 406 (Household Mechanics), required of all students majoring in home economics, is just in the process of being transferred from the department of Agricultural Engineering. Beginning with the coming year, 1928-29, it is to be taught in the department of Home Economics. For this course and for related work for advanced students a new instructor is to be added to the department.

Since the laboratory now in use for house furnishing is entirely inadequate new quarters for that work and for the household equipment courses are being established in the rooms previously occupied by the cafeteria in Campbell Hall.

### CHILD DEVELOPMENT AND HOME HYGIENE DIVISION

Perhaps the greatest progress in the department during the past year has taken place in the courses in child development. Previously only the course required of all students in the College of Agriculture had been offered. It had been administered by the chairman of the Home Economics Department without adequate instructional help. It was therefore very gratifying to be able to secure the services of Miss Edith Deadman, who has specialized in the field of child development, to take charge of the course previously given, to teach a newly offered elective course, and to guide advanced students in their special problems in the study of children.

Progress has taken place in the home-economics nursery school, which was established in February, 1925, as a laboratory for students in child development. Facilities of the nursery

school have been arranged to accommodate 20 children between the ages of 18 months and 5 years. With the added personnel of the department more definite contact with the homes of the children is now possible. From the beginning the nursery school project has received most valuable cooperation from other departments. Dr. Earl Baxter of the Department of Pediatrics gives the children physical examinations and acts in an advisory capacity in all matters related to health. Dr. Francis Maxfield of the Department of Psychology administers mental tests and gives advice on problems of habit training.

A new and very interesting aspect of the work in child development is seen in the organization of a group of parents who have been meeting twice each month and have been following a definite program of study on problems involved in the development of children.

#### INSTITUTION MANAGEMENT DIVISION

Beginning with the Autumn Quarter, 1927, a new plan for the scheduling of students electing the sequence of courses in institution management was put into effect. This plan provides that when a student registers for Home Economics 631, the first course in institution management, she is to schedule also the new course, Home Economics 630 (The Purchase of Foods for Institutions) and no other course. In this way time is provided for students to do a considerable amount of practical work for which they do not receive credit but which is needed as a background of experience. Even though this arrangement reduces the number of credits obtainable in a given time, students are showing their appreciation of the opportunity it affords.

The new cafeteria in Pomerene Hall is under the direct supervision of the institution management division and provides a laboratory of many possibilities for students specializing in institution management. The cafeteria in Campbell Hall was closed at the end of the Winter Quarter, since it was not needed as a laboratory and the number of people served did not justify operating the two cafeterias. Mrs. Kennedy has continued to be in charge of institution management courses and manager of the cafeterias.

#### HOME ECONOMICS EDUCATION DIVISION

The Home Economics Education division has continued its work under the chairmanship of Miss Donnelly.

In order to meet the requirements for certification as determined by the Division of Examination and Licensing of the State Department of Education, it has been necessary to increase the total number of hours spent in observing classroom procedure, participating in the activities of the classroom, and in teaching under the supervision of the regular teacher, from a total of fifty to a total of ninety hours. This increase has caused those in charge of the placement of students for observation, participation, and supervised teaching to seek for more opportunities for this work. The three student teaching centers maintained by Smith-Hughes funds were used to capacity, and the Columbus Public Schools were called upon to accept as many students as their regulations would permit. Besides the social settlements of the city were well supplied with student teachers for their classes. These facilities were adequate for the Autumn and Winter Quarters but not for the Spring Quarter, when the number of students enrolled for observation, participation, and supervised teaching was greatest.

It was therefore found necessary to seek opportunities in nearby communities outside of Columbus. Permission was granted by Boards of Education in Worthington and Groveport to send two student teachers to each high school. This arrangement was much to be appreciated and met the emergency in a very satisfactory way, but it is to be hoped that in the near future the University will establish one or more teaching centers for students in home economics.

There are exactly the same number of students eligible for the Provisional Vocational Home Economics Certificate this year as there were last—42, to be explicit. These students do not all expect to be placed in positions where they will teach vocational home economics but they realize that this training adds materially to their preparation to teach home economics in any school.

Since the qualifications for teaching vocational home economics necessitates the teaching of a series of lessons in a vocational home-economics training center, the large number of students and the increased number of hours required by the State Department of Education caused a serious congestion at all three of the training centers. It has been suggested that this condition be relieved by accepting only those students who meet definite requirements or that there be several more schools added to the list of training schools.

As usual, there has been very close and helpful cooperation between the home economics education division and the State Department of Education.



## RADIO PROGRAM

The radio program called the Homemakers' Half Hour which was given throughout the school year 1926-27 through Station WEAO was continued through the year 1927-28. During the past year, however, the program was broadcast only on Mondays, Wednesdays and Fridays instead of being given daily as last year. The program for each day consisted of several short discussions on different topics and throughout the year many subjects of interest to homemakers were presented.

## RESEARCH

Beginning in January, 1926, the department received assistance in and stimulus to research through the newly available federal funds provided by the Purnell Act for research in agriculture and home economics and administered in this state by the Ohio Agricultural Experiment Station. For purposes of administration the head of the Department of Home Economics of the Ohio State University was, in 1926, made chief of a newly organized Department of Home Economics of the Ohio Agricultural Experiment Station. Other members of this new department were also members of the University staff.

Through a special appropriation made by the Ohio Legislature in 1927 for research in agriculture and home economics to be carried on cooperatively by the Ohio Agricultural Experiment Station and Ohio State University, state funds were also made available. Thus a somewhat larger budget has been provided for research in home economics.

The following projects have been continued under the direction of Miss Hughina McKay, who is part time Professor in Home Economics, Ohio State University, and part time Associate in Home Economics, Ohio Agricultural Experiment Station:

Basal Metabolism of Young Women

Day by Day Variations in the Metabolism of Young Women

Food Consumption of Farm Families in Ohio

Seasonal Variations in the Growth of Pre-School Children of Ohio.

No new experiment station projects were started in this department until January, 1928, at which time Miss Grace Brinton was appointed as Associate in the Department of Home Economics, Ohio Agricultural Experiment Station. Miss Brinton immediately began working on a project called a Study of Certain Cash Expenditures of Ohio Farm Families. She is basing her work upon records in eighty to one hundred farm home account books kept by farm women of Ohio in the year 1927.

## HORTICULTURE AND FORESTRY

## CURRICULUM

Action just taken by the Agriculture College Faculty will result in our section of Forestry being able to give the two beginning years complete in that subject. This was accomplished by the addition of only one major subject in Forestry.

In my last report mention was made of a "horticultural laboratory on wheels" which was to be undertaken last summer. The trip was completed as outlined, in charge of Mr. Charles, who drafted the work. The seventeen students who took advantage of the offer spent a most profitable and enjoyable summer traveling something over twelve thousand miles by automobile. By this means they were able to visit the principal places of horticultural interest in practically all of the states to our west, and, of course, other features, as well, were not neglected. Students and Professor heartily agree that this was a most valuable experience. We will hope to be able to give similar travel courses at intervals in the future.

Our second Annual High-School Apple-Judging Contest was held during Farmers' Week at which time twenty-one high schools competed. We feel that this is a very important work as it serves to interest a number of prospective students and at small effort on our part. It would easily be possible to have a much larger enrollment in the contest if more time could be devoted to bringing the importance of the work more prominently before the various schools.

## RESEARCH

The work mentioned in my last report that Mr. Montgomery had outlined for the new garden tract has had to be held in abeyance due to lack of funds for labor.

I am glad to report for Prof. Charles and myself that our work on fruit-bud determination that was carried out last season has given us some very positive and interesting results. Briefly stated, by shading trees for two weeks beginning at blossoming time, we were able to entirely prevent fruit-bud formation. This work is to be continued this year in an effort to see if this period can be narrowed down to just a few days time. We are also including some work on the effect of changing the length of day on the behavior of apple trees.

Mr. Reilings' work on fruit juices and canning and preserving is now entirely out of our

hands, since he has made a favorable connection with the Moores Ross Company of this city. I am glad to report, however, that the outlook for his process still appears to be very promising. The Company has entered into a contract with the Welch Grape Juice Company whereby the latter is to put in an experimental plant at an expense of several thousands of dollars to them. The Moores Ross Company also expects to have several commercial cider plants in operation next fall so these two products will soon be established.

#### PUBLICATIONS

A. C. HOTTES. Weekly article in *Ohio State Journal* and editor of *Landscape and Gardening* page. *The Book of Shrubs*, A. T. DeLaMare Co., 1928, about 360 pps. "About Roses," Agr. Ext. Service Bull. 71, revised from two previous editions. "About House Plants", Agr. Ext. Service Bull., revised from two previous editions. *Book of Annuals*, A. T. DeLaMare Co., 1928, revised. *Little Book of Perennials*, revised from two previous editions, A. T. DeLaMare Co., July, 1928. "Old and New Annual Friends," *Ladies Home Journal*, May, 1928. "New Varieties of Old Perennials," *Garden and Home Builder*, May, 1928.

V. H. RIES. Bulletins: "Beautifying the Farm Home," Ohio Ext. Bull. 73. Mimeo Outlines: Flower Shows for Every Community. Pruning Ornamental Trees, Shrubs and Vines. Floricultural Books and Bulletins (list). Plants for Beautifying Shady Places. Trees, Shrubs and Vines with Ornamental Fruits and Berries. Perennial Flowers for Rock Gardens. Decorative Use and Arrangement of Cut Flowers. Instructions for 4-H Club Home Beautification Project. Instructions for 4-H Club Flower. Trees, Shrubs and Vines Recommended for Ohio Planting. Annual and Perennial Flowers. Mimeo sheets: Ornamental Trees, Shrubs and Vines for Autumn Color Effects. The Best Ten Plants for Home Beautification. Outline of Procedure for Beautifying the Farm Home. Also 150 or more news articles through Agr. Ext. News Service, etc. Regular monthly articles in *Better Homes and Gardens*, and *The Farmer's Wife*.

F. H. BEACH and C. S. HOLLAND. *Pruning Fruit Trees*.

C. S. HOLLAND. *Grafting and Budding in the Orchard*.

#### POULTRY HUSBANDRY

##### RESEARCH

The following projects were under investigation last year:

1. The nutritive value of blood meal proteins for growth. Blood meal is unpalatable. It is deficient in one or more essential amino-acids. Casein and corn gluten are efficient supplements.

2. Cane molasses for poultry. Cane molasses may be used to replace corn pound for pound up to ten parts of the ration for growing chicks, fattening birds, and laying hens. It increases the palatability of some rations, increases water consumption, and acts as a mild laxative.

3. Mineral requirements for poultry. The feeding of more than 4 per cent of bone meal, limestone, or oyster shell in rations recommended for growing chicks is detrimental, resulting in slower growth and greater mortality. Phosphatic limestone is an efficient substitute for oyster shell for egg-shell formation.

4. A study of the spread of Bacillary White Diarrhea has been started and some progress made. Dr. Fred Spaer, of the Department of Bacteriology, was employed to cooperate in this project. The funds for carrying on the work were received as a gift from the Buckeye and Smith Incubator Companies. The use of formalin to disinfect incubators has been tried out and has proven successful. It appears that an incubator can be disinfected while the chicks are hatching and while the incubator contains eggs of varying ages without doing injury to the eggs or to the hatching chicks. If this proves to be a practical means of disinfecting the machine and killing both bacillary white diarrhea and coccidiosis, it will be the most significant discovery that has been made in recent years in the poultry industry. The project will be carried on throughout the summer, and possibly, if funds are available, for another year.

#### POULTRY DEMONSTRATION FARM PROJECT

There were 1,131 Demonstration Farms started on November 1, 1926. These Demonstration Farms were located in seventy-eight different counties. This makes an average of 14.5 Demonstration Farms per county. This number of Demonstration Farms is more than could properly be supervised with the amount of help that was available during the past year. It is, therefore, felt that the number of farms actually secured was entirely satisfactory. The egg production per hen in Ohio is reported to be approximately seventy eggs per year. A careful analysis of the egg production per bird made by the Extension Marketing Specialists in Allen County indicates that the egg production per hen for that county was approximately seventy-five eggs per bird. Another analysis made by a representative of the United States Department of



Agriculture in Medina County indicates that the average egg production for that county is only sixty-seven eggs per bird. The analysis of the records for the Demonstration Farm flocks for the entire state shows that during the past year the average egg production was 144.7 eggs per bird.

#### CERTIFICATION PROJECT

There were twenty-nine flocks certified during 1927. These flocks were composed of 11,369 females. These females were mated to 416 pedigreed males. The cost of this work is rather high. Some of the smaller flock owners lack this ability of salesmanship, and consequently become discouraged. The larger flock owners, however find the work very profitable and seem inclined to increase the number of birds in their flocks.

With the heavier breeds, it has been difficult to get many flock owners to certify because of the scarcity and expense of pedigreed males. The new Record of Performance Project which is under way at the present time should aid in eliminating this difficulty, and in time be a stimulant to the certification project.

#### POULTRY FIELD DAY

For the first time the Department held a general poultry meeting in October in order to give the poultrymen an opportunity to come to the University to inspect the Poultry Plant and the stock on the farm. The morning was devoted to demonstrations and tours of inspection at the poultry farm. In the afternoon, a general meeting was held in the new Animal Husbandry Building. The attendance was about five or six hundred. A definite count was not secured.

Indications are that this Poultry Field Day, coming as it does just before the opening of winter when the poultrymen are housing their pullets and getting ready for production during the season of high egg prices, will grow in popularity, and that the attendance will increase as the meeting becomes better known and better advertised throughout the State.

#### BABY CHICK FAIR

The first Baby Chick Fair was held in March, 1928. This Fair was scheduled during the spring vacation in order to secure room for various meetings, and for the exhibits. Some 1500 poultrymen attended the two-day meeting. There were thirty-four exhibits of poultry supplies and equipment. The indications are that this spring meeting of poultrymen will be the most popular general meeting held by the Department, and that as time goes on the attendance will increase. The spring of the year is particularly well adapted to such a meeting, since the farmers are securing their baby chicks at that season and are interested not only in the exhibits of baby chicks, but in the supplies and equipment necessary to raise them.

This is the first meeting of this kind that has ever been held in connection with an educational institution. The expenses were almost entirely paid by the sale of exhibition space. The program was diversified, and there appeared to be something of interest for every group of poultrymen in the state. The conference on housing was attended by the Ohio lumber dealers, and we have had many letters of inquiry regarding this feature of the Fair. The Feeding Conference was attended by Ohio feed and elevator owners, and was intended to give information on the mixing and preparation of poultry rations. The Poultry Breeders Conference was attended by poultry breeders, and a national uniform plan of breed improvement and uniform terminology of breeding terms were discussed. The Marketing Conference was attended by the produce trade of the State, and plans were made for exhibits and meetings during National Egg Week, the idea being to inform people regarding the merits of poultry and eggs, particularly as affected by grades and quality of the product.

#### RURAL ECONOMICS

##### RESEARCH

The following old projects have been continued:

No. 1. *Cost of Producing Farm Products in Greene and Medina Counties.* One bulletin has been published on the results of this study. Two more are in page proof. The fourth and last bulletin should be completed by October 1, 1928.

No. 2. *Farm Cost Accounts in Putnam County.* This project has been continued as reported last year. It is the present plan to continue the field work in connection with this project up to January 1, 1928. After that the data will be compiled.

No. 3. *Costs and Standards of Family Living on the Farm.* This project has been continued for the fourth year as outlined in the report of last year.

No. 4. *The Movement of Farm Population in Ohio.* This project has been continued as outlined. The data has been collected in northeastern, northwestern and southwestern Ohio. It is planned to complete the collecting of data this year with a study in southeastern Ohio.



A preliminary report (Rural Sociology, Mimeograph No. 3) has been issued.

No. 5. *The Milk Shed of Northeastern Ohio.* The study of the milk areas and their potential supply contributory to the Cleveland and Pittsburgh markets has been continued by Mr. McBride.

No. 6. *Livestock Losses on the Cleveland Market.* In April the department completed the work of collecting data on losses in live stock arriving at the Cleveland market. For the period of one year data was secured relating to losses on 13,704 shipments; this represents 11.6 per cent of the total arrivals. The data is now being tabulated and analyzed. A preliminary presentation of the results before the Ohio Live Stock Loss Prevention Association at its annual meeting in Dayton, April 18, met with very favorable comment.

The following new projects have been undertaken during the year:

No. 1. *An Analysis of the Marketing Activities of the Northwestern Ohio Poultry Producers Association.* This study was undertaken on July 1 at the request of the poultry Producers. The study was completed in December. The material is now nearly ready to submit for publication. In February a preliminary presentation of the results was made at the annual meeting of the Northwestern Ohio Poultry Producers Association.

No. 2. *Attitude of Ohio Wool Growers Towards the Ohio Wool Pool.* For the past two years the volume of business handled by the Ohio Wool Pool has been falling off. This study was undertaken at the request of the Ohio Wool Growers Association to find out what the attitude of wool growers was towards the pool. The results have been published as Mimeograph Report No. 11.

No. 3. *The Credit Problem of Farm Supply Companies.* This study was undertaken by Mr. McBride in January and completed in April. The results have been published as Rural Economics Mimeograph Report No. 12. Many favorable comments on the study have been received.

No. 4. *Large Land Holdings in Ohio.* There is a popular feeling among many that one of the solutions of the agricultural situation is for farms to be operated in larger units. A study is being made of all the farm holdings in Ohio of over five hundred acres. This study covers the methods of operating these holdings, whether as one unit or more, and also how these units are managed. A special study is being made of all single operating units of over five hundred acres to determine so far as possible their profitability.

No. 5. *The Effect of the Corn Borer on Farm Practices and Farm Organizations.* A study was made of sixty farms in each of seven counties to determine what effect the corn borer is having on farm organization and farm practice. The results have been published in seven mimeograph reports. Also in Bulletin No. 1562 of the U. S. D. A.

No. 6. *Fifteen Years of Ohio Agriculture.* Work on this study was commenced April 1, 1928. It is planned to show the nature, extent, and cause of change in Ohio agriculture from 1910 to 1925.

The following additional research projects have been completed during the year:

No. 1. *The History and Business Practices of Ohio Farmer's Elevators.* Published as an Experiment Station Bulletin No. 416.

No. 2. *The Movement of Dairy Products Into and Out of Ohio.* Published as a mimeograph report.

This is the third year that provision has been made for research work in the department. From now on the results of such studies should be forthcoming in the way of published reports. It is felt that a good beginning has been made in a research program. There are, however, two fields which have as yet been hardly touched, namely, research in "Timely Economic Information for Ohio Farmers" and studies in "Land Utilization." It is the hope of the department that provision may be made for work in these two latter fields in the next budget. The request comes from many sources that the department do more in the way of providing timely Economics Information. The recently established cooperation with the Federal Crop and Live Stock Reporting Service makes available the source data upon which such work could be built. The development of such work has been one of the central and one of the good features of the various proposals for farm relief.

One of the agricultural problems of the state is "What should be done with southeastern Ohio?" On the one hand the policy has been to encourage its development in the way of crop and live stock production, on the other hand the acres in crops and number of live stock has been steadily decreasing for the past forty years. An interest is beginning to develop in forestry. There is a need and a demand for a thoroughgoing study of the most profitable utilization of southeastern Ohio lands.

#### PUBLICATIONS

J. I. FALCONER. Twenty-four articles, *Bi-Monthly Bulletin of the Agr. Exp. Station.* "Research in Progress in the United States in Agricultural Economics and Rural Sociology", 4 vols. Social Science Research Council. (Joint publication with six others) "Research in Farm Income"; *Journal of Farm Economics*, January, 1928.



L. G. FOSTER. "Economics Aspects of Ohio Farmer's Elevators," Ohio Agr. Exp. Station, Bul. No. 416, December, 1927.

C. E. LIVELY. "Rural Recreation in Two Ohio Counties," Ohio State University Studies, Graduate School Series, Contributions in Rural Economics, No. 1, October, 1927. "Rural Health Facilities of Ross County, Ohio," Ohio Agr. Exp. Station, Bul. No. 412, October, 1927 (with P. G. Beck). "Movement of Open Country Population in Two Townships of Northwestern Ohio," Rural Sociology Mimeograph, No. 3, 1928. (with P. G. Beck). "The Teaching of Rural Sociology," *American Journal of Sociology*, XXXIII, 205-210.

C. R. ARNOLD. "Changes in Farming Practice and Farm Organization in Northern Ohio on Account of the European Corn Borer," Ohio State University Mimeograph report, October, 1927, 131 pps. "Farm Practices Under Corn Borer Conditions", U. S. D. A. Farmers Bulletin No. 1562 (with J. W. Tapp). "The Effect of the Corn Borer on Farm Organization in the Corn Belt," *Journal of Farm Economics*, April, 1928. 14 pp.

G. F. HENNING. "Market Movements of Live Stock in Ohio," Ohio Agr. Exp. Station Bulletin No. 409, August, 1927. "Some of the Factors Considered by Wool Producers in Marketing the Wool in Four Ohio Counties," Mimeograph No. 11, May, 1928.

C. W. HAUCK. "The Apple Industry of Ohio," Ohio Agr. Exp. Station, Bulletin No. 418, March, 1928.

C. G. MCBRIDE. "Credit in the Purchase of Farm Supplies in Ohio," Mimeograph No. 12, May, 1928.

During the year members of the department have supplied articles for daily and weekly papers through the News Service of the Extension Department.

## SOILS

### RESEARCH

On the first of July, 1927, all of the research activities of the Soils Department were turned over to the control of the Department of Agronomy of the Ohio Experiment Station. During the past year the work has been carried on the same as in the past and has been in charge of the same men, the only difference being that the men were paid from the Experiment Station budget.

This arrangement has also made possible the starting of additional research work in soils at this institution. During the past year two new projects have been started. One is that of working out a method of determining the size-frequency distribution of particles in soils and of correlating this value with known physical constants of the soil. Mr. Barnes has been assigned to this work. The second new project is being carried on by Mr. McClure and is concerned with determining the effect of heavy nitrogen application to pasture grasses, as measured by the amount and the form of the nitrogen-bearing compounds contained in the grass produced.

All the older experimental plot work is being carried forward according to the original plan, as outlined in a previous report.

### NATIONAL LIMESTONE FELLOWSHIP

In July the National Limestone Fellowship will have completed its fifth and final year. During this time three different men of rather exceptional ability have worked on various problems concerned with the rate of solution of limestone in the soil as related to the degree of fineness of the limestone. The results of the first three years of these investigations have been published in the doctorate theses of Messrs. Broughton and Kriege. The present incumbent will complete his thesis within the next six months. It is the plan of Dr. Bear to bring together in monograph form all of the information contained in these theses and publish it in one binding making the findings available to a large number of interested people.

### PUBLICATIONS

F. E. Bear. *Soil Management* (2nd Ed.), John Wiley & Sons, Inc., N. Y. C. "The Scientific Use of Nitrogen Fertilizers," *Ind., & Eng., Chem.* Vol. 20: p. 65, *Amer. Fert.*, Vol. 68: p. 32. "Ammonia Salts and Nitrates," *Amer. Fert.*, Vol. 67: p. 21.

E. E. Barnes. "Soil Acidity," Ext. Bul., No. 64, Ohio State Univer.

M. V. Bailey. "Permanent Pastures," Ext. Bul., No. 61, Ohio State Univer. "Growth and Distribution of Japan Clover in Ohio," *Jour. Amer. Soc. Agr.*, Vol. 20: p. 118.

T. E. Richmond. "Experiments in Handling Sweet Clover," Ill. Exp. Sta., Bul. No. 285. "The Relative Rates of Nitrification of Different Parts of Sweet Clover Plants," *Soil Sci.*, Vol. 24: p. 31.

## ZOOLOGY AND ENTOMOLOGY

## CHANGES AND ADDITIONS IN CURRICULUM

The only addition to our curriculum was that of a course in Nature Study offered in the Summer Quarter for the benefit of public school teachers. This seemed to be satisfactory and will be tried out again this summer. A graduate course in insect control was not given, due to the fact that an additional professor in entomology was not secured.

## RESEARCH

To our great regret the members of the teaching staff have been too much occupied with administration, committee work and teaching to accomplish much in the way of research. This is to be deplored as the standing of a university is rated no so much upon its output in the number of students as upon its contributions to knowledge. However, there have been some research studies completed by each of us, and we have engaged in the direction of researches by others.

Professor Raymond C. Osburn has directed the State end of the research program being conducted by the United States Bureau of Fisheries and the Ohio Fish and Game Division upon the fisheries of Lake Erie. This work began a year ago and has involved numerous conferences, the employment and direction of two scientific investigators, the purchase of equipment, and much correspondence. The other states bordering upon Lake Erie are also being brought into the work and a general committee on the research consisting of Higgins of the United States Bureau of Fisheries, Moore of the New York Conservation Commission, and Osburn of Ohio has formulated an acceptable plan of cooperation.

Professor Osburn has also continued work as opportunity afforded on the marine Bryozoa and has directed the research of numerous graduate students, three of whom have completed the work for the doctorate.

Research Professor Herbert Osborn, following his custom for many years, has been actively engaged in the study of economic insects, the Hemiptera especially. His vacation period was spent in Florida collecting material for further work. He has conferred with the Ohio Experiment Station, the United States Bureau of Entomology, and various other organizations concerning entomological research. Also he has directed the research of various graduate students, five of whom have completed the work for the doctorate during the year.

Professor W. M. Barrows has followed up his work in experimental zoology, especially in the line of animal reactions, and has directed the research of several students in this field. One of them completed the work for the doctorate. Professor Barrows also is one of the outstanding students of the spiders, having described many new species and discovered various new facts about their life histories.

Professor F. H. Kreeker has completed, ready for publication, his studies of water movements in the western end of Lake Erie. The oscillations, changes in level and the currents, naturally, have an influence on the distribution of life in the lake. He has also contributed to work of directing graduate students in their research and special problems.

Professor D. M. DeLong spent the past summer in research work for the United States Bureau of Entomology, studying especially the life history and control of the destructive bean leafhopper. The results of this work will be published by the Bureau. He is one of the foremost authorities on the large group of insect pests known as leafhoppers and gives some time throughout the year to systematic studies on this group. Like others in the Department he has given a great deal of time to the direction of problems pursued by our graduate students.

Professor C. H. Kennedy has continued his research with his usual activity, especially in the line of insect morphology and biological relations. An unusual number of special problems of a research nature undertaken by the younger graduate students have been directed by him.

Professor W. J. Kostir has continued his work on the Protozoa and has directed the research of several students, one of whom will complete the work for the doctorate during the Summer Quarter.

The instructors, assistants and graduate students have all been working on research problems of various kinds, the results of which will, for the most part, eventually be presented as a part of the requirement for the master's or doctor's degree, and many of these studies will be published in the course of time.

## PUBLICATIONS

Raymond C. Osburn. *The Bryozoa of Curacao, Bijdragen tot de Dierkunde, Uitgegeven Door, Het Koninklijk Genootschap, Natura Artis Magistra, te Amsterdam.* Af. XXV. Editor of Brachiopoda, Bryozoa, and Phoronidea Section of *Biological Abstracts*.

Herbert Osborn. "Neotropical Homoptera of the Carnegie Museum," Pt. 6. Report of



Subfamily Typhlocyinae with descriptions of New Species. *Annals Carnegie Museum*. Vol. 18: pp. 253-298. 4 pls. (In press, doubtless to appear in June). "Biological Aspects of State Parks". "Wild Flower", Jan., 1928; pp. 10-11. Editorial work on the *Annals of the Entomological Society of America* and of the bulletins of the Ohio Biological Survey.

W. M. Barrows. Text book, *Science of Animal Life*. Illustrated. World Book Co., pp. 389.

F. H. Kreeker. Editor of *Ohio Journal of Science*. Contributing abstracts in English or German articles on Zoological subjects to *Biological Abstracts*.

D. M. DeLong. "Some Present-Day Student Problems and Attitudes." *The Agricultural Student*, The Ohio State University, October, 1927. "Entomology in Its Relation to the Problems of Industry," *Scientific Monthly*, Scientific Press, Lancaster, Pa., November, 1927, pp. 429-434. "Some Observations Upon the Biology and Control of the Potato Leafhopper" (*Empoasca fabae* Harris) *Jour. of Econ. Ent.*, February 15, 1928. Vol. 21: p. 183-88. "The Potato Leafhopper as a Bean Pest in Ohio," *Proc. Ohio Veg. Growers' Assoc.*, for 1928.

T. H. Parks. "Control of Garden Insects and Diseases," *Bul. of Ohio State Agri. College Extension Service* No. 76. April, 1928. "Corn Borer as a Sweet-Corn Pest," *Proc. of the Ohio Veg. Growers' Ass'n*, 1928.

Virgil N. Argo. "The North American Species of the Genus *Potamanthus*", with a description of a new species, *Jour. of the New York Ent. Soc.*, December, 1927, Vol. 35: p. 319-329. 2 plates.

M. P. Jones. "Mexican Bean Beetle," *Bul. of Agricultural College Extension Service* No. 75. The Ohio State University.

D. A. Wilbur. "Insects of Ohio and Their Natural Enemies," State Dept. of Education, Arbor and Bird Day Bulletin, April, 1928.

D. F. Miller. "A Case of the Botfly (*Bogeria buccata*) as a Parasite upon the Common House Mouse (*Mus musculus*).", *Ent. News*, 1928. Vol. 39: p. 13-15.

G. S. Lanford, and Geo. M. List. "Occurrence of Hessian Fly in Colorado," *Jour. Econ. Ent.*, Vol. 20, No. 5, p. 740.

#### OTHER ACTIVITIES

Professor R. C. Osburn is Director of the Franz Theodore Stone Laboratory, an account of which follows in another section of this report. Throughout the year he has given a considerable amount of time to advising with the work of the State Fish and Game Division and especially to directing the state's part of the work on the Lake Erie fisheries investigation. This work, first initiated by the U. S. Bureau of Fisheries, has now the cooperation of our own State, and of New York, Pennsylvania, and Michigan. Two scientists are regularly employed in the investigation, which has for its purpose the re-establishment of the depleted whitefish and herring fisheries of Lake Erie. A consistent program of research has been laid out by the various agencies cooperating; Ohio and the Federal Bureau have been at the work for nearly a year. Professor Osburn, as President of the Advisory Board of the State Fish and Game Division, has had entire charge of planning the state's portion of the work and of directing the activities of the state employees engaged in this work. This is done, of course, without additional salary. He has been called upon for a great deal of committee work in the University. He is a member of the Council of the American Association for the Advancement of Science and a member of the executive committee of the zoology section of that organization. He is also a collaborator on *Biological Abstracts*.

Professor Herbert Osborn is a member of several important committees of state and national organizations. He is Chairman of the Committee on State Parks and Conservation and a Trustee of the Research Fund of the Ohio Academy of Science. He is Managing Editor of the *Annals of the Entomological Society of America* and has made that journal easily the greatest entomological publication in the world. He collaborates with the Carnegie Museum of Pittsburgh in working up their collection of Hemiptera. He spent the winter collecting in Florida and studying the species of Hemiptera, in which group he is recognized as one of the world's greatest authorities.

Professor W. M. Barrows spent his vacation quarter at the University engaged in research and in the preparation of a laboratory manual to accompany his textbook on high school zoology.

Professor F. H. Kreeker spent the summer, his vacation period, at his usual summer work of Assistant Director of the Stone Laboratory. He is editor of the *Ohio Journal of Science*, which has become one of the best local scientific journals in the country and has a wide circulation which brings into the University library over 500 exchanges.

Professor D. M. DeLong collaborated, during the whole Summer Quarter, with the United States Bureau of Entomology, carrying on investigations on the important pest, the Bean Leafhopper. When completed, his results will be published by the Bureau. While stationed at the University for this work DeLong found time to direct the research of a number of graduate

students during the summer. He is probably the best authority in the world on certain groups of the leafhoppers, which are among the most important of our plant pests, and he is often called upon for advice outside of the state. Just recently he was called to Washington by the U. S. Department of Agriculture for a conference on the control of these pests.

Professor C. H. Kennedy taught the course in entomology at the Stone Laboratory and conducted some research with graduate students, at the same time adding several thousand entomological specimens to the collections of the Department. Dr. Kennedy is Associate Editor of the *Annals of the Entomological Society of America* and in the Winter Quarter assumes the entire responsibility during Professor Osborn's absence.

#### THE FRANZ THEODORE STONE LABORATORY

The most satisfactory session in the history of the Laboratory was held last summer, although conditions were still far from ideal. The completion of the basement part of the new laboratory building permitted us to expand somewhat, as two of the rooms could be used for laboratories, affording more space than ever before.

There were thirty-five students and research workers, nearly all of them graduate students working for higher degrees. Several remained for some time after the close of the teaching session to continue work on their problems.

Following the close of the session last summer, work was begun on the upper stories of the laboratory, which was inclosed before winter weather put a stop to building operations. This spring the work has been completed, as far as the building is concerned. The entire laboratory building will be occupied during the 1928 session. It is something of which the University and the State may well be proud, as it is the best built and best equipped fresh-water biological laboratory in the country.

The old boathouse on the dock was removed in the winter by the caretakers, Messrs. Phillips and Miller, and set up again beside the old yacht house in an inconspicuous place. These together will make a very satisfactory workshop and storage place for our boats, where winter work can be carried on by the caretakers. Much repair work, repainting, etc., is necessary in connection with the boats and other equipment.

This part of the report would not be complete without a reference to the energetic and efficient work of the caretaker, Mr. T. H. Phillips, and his assistant, Mr. Ernest Miller. Both of these men are excellent practical mechanics, they know boats and boat engines, and are able to make all ordinary repairs and adjustments to boats and other equipment. They are familiar with every part of the region and are careful and expert sailors, who can take out parties of our students for their fieldwork with perfect safety. At the same time they have cleaned up Gibraltar Island as it has never been cleaned before until it presents the appearance of a well-cared-for park.

The planning for building and improvements has meant a great deal of hard work for the Director, Professor R. C. Osburn, and involved spending much time in travel back and forth and in conferences over the work, but he is happy in the knowledge that Ohio has a scientific laboratory for the investigation of aquatic life that is unequaled anywhere inland and where any biological scientist may be invited to contribute to the enlargement of knowledge.



## COLLEGE OF COMMERCE AND ADMINISTRATION

*Acting Dean, W. C. WEIDLER*

The College of Commerce and Administration was organized in 1916. Its growth, like that of many other collegiate schools of business, has been very rapid until it now has a student body of approximately 1,800 and a teaching staff of eighty-two. More recent developments include the establishment of a Bureau of Business Research and the organization of a Department of Commerce Extension. Our rate of growth in student enrollments, heretofore quite rapid, has recently slowed down somewhat, and, in all probability, will proceed more slowly in the immediate future. This is regarded as a fortunate circumstance, since it now suggests the desirability of undertaking a careful inventory and appraisal of our courses, curricula, and staffs. Preliminary studies indicate that the emphasis should now be put on building qualitatively. Efforts should be directed to consolidating and strengthening our position by so adjusting salaries as to enable us to retain faculty members of promise and distinction and to add to our staffs individuals of distinctive qualities.

Many colleges of commerce now realize that their efforts, like our own, must be concentrated on strengthening their staffs. These institutions are now offering a severe competition for the services of able men. The establishment of Bureaus of Business Research in other universities adds to the keenness of the competition for men. To this competition, there are added the demands of business for the services of university men. Within the past two months, for example, we have lost three teachers to business. The Assistant Professor of Industrial Management resigned to accept a research position with General Motors and two instructors have accepted positions with other industries. In each case, the salary received is approximately twice that received from the University.

The inadequacy of our salary scale is still more strikingly revealed when we undertake to add men to our staffs. The result has been too frequently the substitution of less effective instructors when vacancies have occurred through the resignations of staff members. The problem of the development and maintenance of a capable staff and one which will bring distinction to the College and University is, however, not merely a question of salary levels. It involves the establishment of conditions which will create the opportunity and stimulus to growth and scholastic attainments. In this connection, we have fine opportunities through the medium of the Bureau of Business Research. Research on the part of members of the teaching staffs has been greatly stimulated by the facilities offered by this Bureau. Giving larger effect to the plan of rotation of staffs, by which members of the teaching staffs might temporarily exchange positions with Bureau staff members, would furnish one of the finest stimuli for productive scholarship.

At the University of Michigan, research by teaching staff members has been effectively encouraged by assigning reduced teaching schedules to individuals who have demonstrated their research capacities. These individuals are assisted in their research programs by the Bureau of Business Research. A similar program at this institution would unquestionably yield fruitful results.



In spite of certain handicaps, the faculty has made an effective showing in the fields of research and in its publications. A number of texts have been published, or are nearing completion, and will be published in the near future. Professor C. A. Dice has published a book on *The Stock Market*; and Professors Maynard, Weidler, and Beckman, a text entitled *The Principles of Marketing*. Books in process include a textbook in the fundamentals of Social Geography, in which Professors Huntington and Carlson are now engaged, and a book on Banking, on which Professor Dice is now working. In addition to these books, staff members have contributed many articles to periodicals and have taken part in the program of various scientific societies. The research work carried forward and the publication of the results by the Bureau of Business Research are set forth by the Director of the Bureau in his annual report.

During the past year various departments in the college have assisted in the organization and conduct of conferences and institutes for business interests of the state. In October, 1927, the College, in cooperation with the Colleges of Engineering and Education, held Management Week Conferences on the campus. This Management Week program was rather extensive and included section meetings of interest to industrial managers, accountants, statisticians, personnel managers, and engineers.

The School of Journalism was particularly active in its cooperation with outside interests. This School was actively represented in the convention programs of the Associated Ohio Dailies and the Buckeye Press Association. The School also sponsored an annual Newspaper Show in connection with the program of the Buckeye Press Association. The School has also assisted in the organization of the Ohio Newspaper Association and is cooperating with it. One distinct meeting of this Association was held on the campus. Professor Hooper is president of the Association. The Journalism Association of Ohio Schools held two conventions on the campus. Other Associations with which the College has cooperated in building programs and organizing institutes include the Ohio Association of Certified Public Accountants and the Association of Ohio Realtors.

In addition to the types of cooperation described above, the College has served other Associations and its business constituency by supplying speakers for numerous programs. The Department of Commerce Extension has been especially active in this latter type of service, having, among other things, organized and provided for a nine months' program of radio talks on different phases of economic and social life. The development of a more extensive service to business interests through the organization and promotion of institutes represents a field with large service possibilities. The response to such institutes as have been fostered has been very encouraging. Business men and associations are constantly urging us to provide for their needs by arranging for short institute programs.

In the spring of 1928, Dr. Harold S. Moulton, Director of the Brookings Institute at Washington D. C., was brought to the campus under the joint auspices of the Department of Economics and the Graduate School. The program consisted of two weeks of conferences and addresses. The response to this program was so enthusiastic and the value so unmistakable as to indicate the desirability of similar programs on a more extensive scale. The practice of bringing distinguished men to the campus for short conferences or on an exchange basis is one which needs encouragement. There is nothing more



stimulating to advanced undergraduate and graduate students than contact with distinguished outsiders. Such associations also do much to encourage and stimulate a faculty to renewed endeavor. The Summer-School program of this college might be made more attractive by adding distinguished visitors to our Summer-Quarter staff.

The college has made some progress in promoting field work for advanced undergraduate students. It is our thought that this practice of placing students in selected business or social agency positions for a quarter between their junior and senior years adds materially to the effectiveness of their training. Such experiences assist the student in his choice of a vocation and furnish a valuable background for the course work of his senior year. Up to the present time, this program has been limited by the inadequacy of our personnel. It is urged that there be added to our staff a Director of Personnel who can establish these contacts and do the work incident to and necessary for such a program. Such a director should also be of great value in placing graduates in positions and in assisting students to secure part-time employment where they can gain experience which will effectively supplement their school work.

One of the outstanding college needs is for the completion of the Commerce Building. This building was outgrown before it was completed. At the present time Commerce classroom needs far exceed the capacity of the building and classes are assigned to scattered rooms over the University campus. This is a special disadvantage where effective teaching calls for special equipment, such as maps, and exhibits. Laboratory space is inadequate and sections are too crowded for effective work. The College library reading-room space is too small to accommodate the students who must use this room for assigned readings. Both the Bureau of Business Research and the Department of Commerce Extension are badly crowded and with larger programs in effect will be in great need of additional space. The situation as far as concerns the provision of adequate office space for members of the instructional staff is particularly bad. The majority of our instructors are crowded into combination offices where conditions are bad both from the standpoint of research and of student conferences. The administrative office situation is such as to make no adequate provision for the Junior Dean.

The progress of graduate work in the college has been most gratifying. The number of such students has increased and includes many men of promise. Present plans for increasing the maturity of instruction in elementary courses may, however, have adverse effects upon the development of graduate work, unless considerable care is exercised. In the reports accompanying the biennial budget, attention is directed to the desirability of creating certain non-teaching assistantships. These assistantships would encourage the enrollment of graduate students and, at the same time, supply more mature readers and course assistants than can be secured under the present readerships. It would seem that graduate work might be more effectively promoted by additions to the list of scholarships and fellowships now available.

Attention is particularly directed to the desirability of providing for correspondence instruction to be offered by the Department of Commerce Extension. Large sums of money are spent each year by residents of Ohio for tuition for commercial correspondence courses. Many of these courses are less effective than they should be and this college has a large field of potential usefulness in developing this service. In the biennial budget report, attention

was directed to the valuable supplement to other extension courses which such courses offer.

The program of the Department of Commerce Extension should be so expanded as to permit students to take an educational program rather than a single isolated course, which is all that we can now offer in certain communities.

The attached reports of the chairmen of the departments, located administratively in the college, set forth the major achievements of the year, programs in progress, and the outstanding departmental needs.

#### ACCOUNTING DEPARTMENT

J. B. HECKERT, *Acting Chairman*

The following comparative statistics for the past three years will give some indication of the quantity of the work carried by this department.

#### COURSES OFFERED

	1925-26	1926-27	1927-28
Elementary (400).....	3	2	3
Advanced (600).....	17	17	17
Graduate (800).....	3	3	3
Total .....	23	22	23

#### \* CREDIT HOURS GIVEN

Elementary .....		160	160
Advanced .....		138	151
Total .....	303	298	311

\* Graduate work not included

#### REGISTRATION

Total .....	1636	1526	1520
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During this year the instructional staff has consisted of two associate professors, two assistant professors, two part-time lecturers, one instructor, one graduate assistant, and two part-time undergraduate assistants. The budget for the department was \$24,550 as compared with \$20,620 for the previous year.

During the year Professor Howard C. Greer has been on leave of absence with Professor J. B. Heckert acting as chairman of the department. Other changes in personnel have had to do only with undergraduate assistants. The leave of absence to Professor Greer has now been extended to cover the academic year of 1928-29, and Mr. Olin Thomas has been appointed as instructor to serve for one year only during Professor Greer's absence.

The department has cooperated with the Bureau of Business Research through consultation by staff members. In cooperation with the Department of Commerce Extension, two public meetings have been held. One of these was carried on in connection with the University Management Week program and was attended by industrial accountants throughout the state. The other was held jointly with the Ohio Society of Certified Public Accountants and consisted of a two-day program for the practicing public accountants of the state.

A plan has been developed for placing public accounting students with public accounting firms during the Winter Quarter of the senior year for the purpose of securing field training. Seven students were placed with account-



ing firms in the cities of Cleveland and Toledo. Limited supervision was given to these students while in the field. The department feels that this plan is effective and desirable and should be continued and expanded.

For the coming year plans have been developed to place the major part of the teaching of elementary classes in the hands of the older and more experienced teachers in the department.

#### THE DEPARTMENT OF BUSINESS ORGANIZATION

W. C. WEIDLER, *Chairman*

The total registrations in courses offered by the Department show an increase for the four quarters of the year. Total registrations for 1927-28 were 4,010 while registrations for 1926-27 were 3,841.

Important changes have occurred in the instructional staff in the course of the year. The resignations of Dr. C. O. Ruggles, Assistant Professor Ralph C. Davis, and Assistant R. D. McGinnis have been accepted. Dr. Ruggles has accepted a Professorship in the Graduate School of Business Administration of Harvard University. Mr. Davis has resigned to continue in research work for the General Motors Corporation. Mr. McGinnis has been appointed to an assistant professorship in the University of Arkansas.

A most serious situation has been created by the resignations of Dr. Ruggles and Assistant Professor Davis. Dr. Ruggles' resignation means not only the loss of a particularly effective administrator, but also of a distinguished professor in the important Public Utility field. Professor Davis' resignation reduces the effectiveness of our Industrial Management staff and creates a vacancy which it is very difficult to fill.

A number of leaves of absence have been granted to staff members. Dr. Felix E. Held has been granted leave for one year to study foreign trade abroad. Mr. Kaufman leaves for the year to assume the management of the consolidated production departments of the Gimbel Store in Pittsburgh. Assistant Professor Harold H. Shively has been granted leave for the year 1928-29 in order to carry on graduate study in another institution.

Additions to the staff include two appointments made during the Summer quarter of 1927 and two appointments recently made which become effective October 1, 1928. In the Summer of 1927, Dr. William Duffus was appointed to a professorship in Finance and W. Mason Smith to an instructorship in Business Organization. By recent action of the Board of Trustees, H. W. Cordell was appointed to an associate professorship of Marketing effective October 1, 1928, to take the work released by Mr. Reeder's appointment to a Junior Deanship. Mr. Ralph B. Alspaugh was transferred, effective October 1, 1928, from the Department of Extension to the Business Organization staff.

On the whole, the Department has lost in the maturity and effectiveness of the instructional staff.

In the course of the year, staff members have published two textbooks. Professor of Banking Charles A. Dice has published a book on *The Stock Market* which has met with a very favorable reception. Professors Maynard, Weidler, and Beckman published *The Principles of Marketing* in August, 1927. Other staff members have important work in progress, and several staff members have contributed substantial articles to various publications.

An important Department contribution lies in cooperation in the program of the Bureau of Business Research. Two Doctoral theses which will be published in the near future as Bureau Studies have been jointly planned and

supervised by the Department and the Bureau. In addition members of the Department have assisted in planning other Bureau studies.

The Department participated in the general Management Week program held in October, 1927. The general direction of the program was assumed by Professor Willis Wissler of this Department, and the Industrial Management division of the Department participated in the general program.

The loss in maturity of instruction resulting from the resignations referred to above should be repaired at the earliest possible moment by adding men of distinction to our staff. The Industrial Management division, in particular, is in need of additional mature instruction. A professor of distinction should be added to this staff.

Another outstanding need lies in the appointment of a Professor to care for a course in Business Policy, which will have the general purpose of coordinating the students' thought on business problems. This proposed course is discussed at some length in the Department report accompanying the biennial budget.

The Department has furnished approximately two-thirds of the instruction for the course, Social Science 400-401. The principal need here is for the development of a mature nucleus of instruction to give continuity and effectiveness to the program.

In spite of limited Summer quarter offerings, the staff has never been sufficiently large to permit the payment for extra quarter teaching in leaves of absence. Inadequate man power has forced the cash commutation of a considerable number of leaves of absence. A staff adequate to provide for a four-quarter program represents one of the more important Department needs



# THE DEPARTMENT OF COMMERCE EXTENSION

*Director, THOMAS L. KIBLER*

During the academic year 1927-1928, this Department has provided an evening-school program in nineteen cities of the state, the cities served and the courses offered being as follows:

<i>Cities</i>	<i>Courses</i>	<i>Course Numbers</i>	<i>Quarter Offered</i>
Ashtabula	Retailing	705A	Autumn
Barberton	Advanced Principles of Accounting	601A	Autumn
	Retailing	705A	Winter
	Retailing	705B	Spring
Canton	Cost Accounting	603A	Autumn
	Cost Accounting	603B	Winter
	Cost Accounting	603C	Spring
	Salesmanship and Sales Management	712A	Autumn
Columbus	Advanced Principles of Accounting	601A	Autumn
	Advanced Principles of Accounting	601B	Winter
	Advanced Principles of Accounting	601C	Spring
	Elements of Accounting	401A	Spring
	Investments	658A	Autumn
	Investments	658B	Winter
	Life Insurance	760A	Spring
	Principles and Problems of Economics	601A	Winter
	Principles and Problems of Economics	601B	Spring
	Salesmanship and Sales Management	712A	Autumn
Cuyahoga Falls	Retailing	705A	Autumn
Dayton	Salesmanship and Sales Management	712A	Autumn
	Salesmanship and Sales Management	712B	Winter
Findlay	Retailing	705A	Winter
Lancaster	Retailing	705A	Winter
Lima	Advanced Principles of Accounting	601A	Autumn
	Advanced Principles of Accounting	601B	Winter
	Advanced Principles of Accounting	601C	Spring
Lorain	Retailing	705A	Spring
	Investments	658A	Spring
Mansfield	Investments	658A	Autumn
	Investments	658B	Winter
Massillon	Principles and Problems of Economics	601A	Autumn
	Principles and Problems of Economics	601B	Winter
	Principles and Problems of Economics	601C	Spring
	Retailing	705A	Winter
Mt. Vernon	Investments	658A	Spring
Newark	Elements of Accounting	401A	Autumn
	Elements of Accounting	401B	Winter
	Elements of Accounting	401C	Spring
	Investments	658A	Spring
Sandusky	Elements of Accounting	401A	Spring

Toledo	Income Tax Accounting	611A	Autumn
	Income Tax Accounting	611B	Winter
Warren	Investments	658A	Autumn
	Investments	658B	Winter
Youngstown	Cost Accounting	603A	Autumn
	Cost Accounting	603B	Winter
	Investments	658A	Autumn
	Investments	658B	Winter
	Principles and Problems of Economics	601A	Autumn
	Principles and Problems of Economics	601B	Winter
Zanesville	Principles and Problems of Economics	601C	Spring
	Elements of Accounting	401A	Autumn
	Elements of Accounting	401B	Winter

The total registrations for the year were 1216, as compared with 539 for 1925-1926, and 642 for 1926-1927. There was an average registration per class of 23.2, as compared with 18.3 for 1925-1926 and 20.7 for 1926-1927. The teaching staff for the current period has not been increased over last year except by the retention of Mr. Charles H. Chase who was appointed in the middle of the academic year 1926-1927.

The Department operated in eight cities during 1925-1926, thirteen cities during 1926-1927, and nineteen cities during the period just closing. This is the limit of distribution possible with the present staff.

Staff changes occurring involved the transfers of L. H. Grinstead to the Bureau of Business Research, J. B. Heckert to the resident Department of Accounting, and the employment of R. B. Alspaugh and H. E. Smith, to fill the vacancies occasioned by the above transfers.

The maturity of the students composing Extension classes is indicated by the following facts: average age, 33.6; high school graduates, 76.5 per cent; college graduates, 14.5 per cent. Forty per cent of the entire enrollment have done some college work, and 5.9 per cent are graduates of the Ohio State University. Major and minor business executives and professional people constitute the larger part of the class enrollment.

In addition to regular university classes, approximately three thousand people have been served through institutes and lectures. These include Management Week, Accounting, Real Estate and Journalism institutes, and addresses delivered by resident and extension men and by special speakers employed by the Department. An interesting feature was a series of radio talks continuing for nine months, covering various phases of economic and social life. These talks were arranged by the Department with the cooperation of the resident staff.

During the year a limited number of resident students have been placed in industry under the supervision of the Department to gain practical experience in the line of their vocational interests. Very careful study is being made of this feature in order to ascertain its effectiveness before expanding it.

In the biennial report the Department is recommending several additions to the staff to enable it to follow up the development of the program and to effect a wider distribution of the service. It is also proposing the establishment of a correspondence feature in line with the policy of most of the larger state universities of the country. This will enable it (1) to provide a continuation service to those graduates of the University who desire it in their effort to adjust themselves to their environment; (2) to supplement class instruction, especially in case of those applicants who have insufficient back-



ground to enter Extension classes and desire to qualify; (3) to supply service for those smaller communities that cannot develop classes large enough for class instruction; and (4) to bring the facilities of the College of Commerce and Administration generally to those high school graduates who cannot afford to pursue a resident course.

## DEPARTMENT OF ECONOMICS

*Chairman, M. B. HAMMOND*

The course registration in the department of economics has shown considerable growth this year after remaining about stationary for several years. The increase affected all four quarters and made necessary some additional instruction. The increase seems, in the main, to have been due to the organization of the General Business course within the college a year ago which has proved attractive to a large number of the students, and this General Business course has included as required work several courses in economics hitherto elective. This has necessitated the establishment of additional sections in these courses, and this tendency to change from the more highly specialized courses to the General Business course has not yet worked itself out.

Notable happenings within the department during the year have been: (1) The absence of Professor H. Gordon Hayes as Visiting Professor in the University of Porto Rico; (2) President Harold G. Moulton of the Brookings Institute at Washington delivered a course of lectures and held daily conferences for two weeks with graduate students in economics on the subject of international finance, on which subject he has become an authority. The success of these lectures and conferences raises the question whether in each of the departments of the University having a considerable number of graduate students there should not be provided a fund for bringing each year a scholar of prominence who could in the course of a few weeks present the gist of his ideas and have them discussed by the instructors and advanced students. I may say that during the two weeks Dr. Moulton was here the department of economics suspended work in all its purely graduate classes, in order that faculty and students might by reading and discussion concentrate on his work. (3) During the year the department has taken a step in the direction of improving instruction in its fundamental course in the principles of Economics. This course continues under the direction of Professor Hayes but instead of the weekly lecture by him, followed by instruction in the textbook and problems by part-time assistants who are devoting the remainder of their work to their graduate studies, the weekly lecture has been abandoned and the instruction has been for the most part placed in the hands of full-time, experienced instructors who have completed or nearly completed their graduate work.

The abandonment of the lecture is at least partly justified by the fact that Professor Hayes has now completed and published his two-volume work on Economics which will enable students and instructors to avail themselves of his fundamental ideas in printed form.

While this change in the method of teaching the principles bids fair to improve instruction, it does raise the question as to what method is to be used to recruit graduate students. Because of the very meagre resources of the University in the way of scholarships and fellowships, we have made use in the past of part-time teaching assistantships in order to secure graduate students of ability.

Productive scholarship within the department has made fair progress within the year. Professor Hayes has completed his book already referred to,



entitled *Our Economic System*. Professor Wolfe has continued to publish articles and reviews in the leading journals in social sciences, and some of the younger men have monographs or articles about to be published. Other more extensive research work is in progress by members of the department.

Two members of the teaching staff, Messrs. Dewey and Spengler, have made arrangements with the Institute of Economics to carry on their research work with funds provided by the Institute at Washington.

This seems likely to be my last report as chairman of the department. I go at the end of the present (summer) quarter to Washington to engage in research work, having earned a full year's leave of absence, under the plan of teaching in the summer until the full year's leave has been accumulated. It will be necessary to have a chairman appointed to serve during my absence and it has seemed to me that it is a good time to yield the leadership permanently to some other member of the department. I trust that on my return I shall be able to serve the department for some years as teacher and writer, and I have no fear but that my relations with the other members of the department will be as congenial in the future as they have been in the past. My associates are all fine teachers, excellent scholars, and cultured men and women.

From you, Mr. Dean, and your predecessors, Deans Hagerty and Ruggles, and from Presidents Thompson and Rightmire I have never received anything but courteous and considerate treatment and I wish in closing my report to express my appreciation for this helpful support and friendly interest.

## DEPARTMENT OF GEOGRAPHY

*Chairman, CHARLES C. HUNTINGTON*

In submitting to you this annual report of the department of geography for the year ending June 30, 1928, I may say that there has been progress in each of the various lines of work undertaken by the department. Friendly relations with the business men of the city and state have been furthered through talks to classes by business men and addresses by members of our staff before groups of business men. So, also, teachers of geography throughout the state have shown much interest in our work, and this interest resulted in several talks to teachers by members of our staff and two public addresses on the campus by prominent geographers of other institutions.

The registration line past year reached a higher figure than ever before, the total being 2,435 for the year. Of this number, 95 per cent came from three colleges: Commerce and Administration leading, with 67 per cent; Education coming next, with 18 per cent; and Liberal Arts being third, with 10 per cent. During the year much attention was given to improving the teaching of freshmen and sophomores. A considerable number of students also came from the Graduate School, most of whom were taking their majors in geography. It is hoped that one or more scholarships or fellowships may be granted to the department in order to encourage graduate work in this line.

It has been the policy of the department, as far as possible, to fill assistantships with graduate students who were working for advanced degrees. At least two more assistants should be added to the department. The changing of three of our assistantships to instructorships for the coming year is quite a step forward, as it helps to fill the gap which has heretofore existed in our teaching staff between the rank of professor and that of assistant. It also gives more prestige to the teacher in the eyes of the student and more of a feeling of permanency to the teaching staff. It is hoped that this progress may be furthered in the near future by the addition of an assistant professor to the staff.

During the year important additions were made to the department's valuable collection of maps and slides. The addition of a map curator and cartographer to the staff of the department is needed. His duties in caring for the map equipment and slides, operating the lanterns, and making maps for the department might well culminate in the teaching of our departmental course on map construction and interpretation.

Of the present members of our teaching force, Professor Van Cleef did in the past year a piece of research work for the Bureau of Business Research on the "Foreign Trade Activities of Ohio" which has received favorable comment, while the chairman of the department contributed a chapter on Ohio's National Resources to the Bureau's forthcoming report on "Industrial Ohio." Dr. Peattie's leave of absence for travel and study in Europe was in a measure compensated for by the opportunity of having temporarily on our staff Dr. Guy-Harold Smith, formerly of the University of Wisconsin. Professor Carlson, in collaboration with the chairman of the department, has been engaged in the completion of a textbook in the fundamentals of social geography for



freshmen. This has been tried out in the first-year class in mimeograph form and will be published during the coming school year.

With the return of the chairman of the department from his trip around the world, during which he devoted special study to the English-speaking peoples of the Southern Hemisphere, and the expected return of Professor Peattie at the beginning of the Autumn Quarter, the departmental faculty will again be reunited and looks forward to an even better year of geography work at Ohio State University in 1928-29.

The department has been very busy during the past year in the preparation of the annual report, and in the preparation of the departmental budget for the coming year.

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## SCHOOL OF JOURNALISM

*Chairman, J. S. MYERS*

In the School of Journalism no change occurred in the instructional staff, which consists of two professors, one assistant professor, and two part-time instructors. By action of the board of trustees this spring the department was authorized to recommend a man to direct the laboratory work and do some teaching.

The recommendation made by the department early in the year for a field course was approved, and for the summer of 1928 more than a dozen students have enrolled in what is entitled A Journalism Practice Course. It is a laboratory course in which students work in various approved newspaper offices, with varying credit, two to five hours, based on the quality and duration of the service. Bi-weekly reports are required from the student, and one at the end of the period from the employer.

The most interesting and significant part of this report has to do with what may be called the extramural activities of the school. For years with success we have been endeavoring to be of service to the publishers of the state, not only by giving them trained men and women, but also by promoting their interest in other ways.

The School finishes in July the ninth volume of the Ohio Newspaper, which continues to find favor with newspaper men and women and to furnish an incentive to better journalism. In the year just closing there have been published in the periodical the results of a business survey begun by Professor H. C. Greer and completed by Josephine A. Lowrie, assistant. The articles have been illuminating and, it is hoped, helpful in showing how better business methods will lead to the making of better newspapers.

A new project of the School is the creation of a Hall of Fame, in which it is planned to honor Ohio journalists of the past and bring to the attention of students of journalism the careers of those who have served with credit to themselves, to the profession, and to the state. It is proposed to submit once a year to a committee of judges—fifty newspaper men and women and historians—a list of names to be voted upon. Those who are elected will be commemorated in the school by pictures hung upon the walls and by biographical data or sketches in a convenient filing case. The judges have been appointed by the School, and most of them have already indicated their willingness to serve, some writing letters of hearty commendation. It is probable that the first list of nominees will be sent to the judges this summer.

The School continues to work with increasing intimacy with the newspapers of the state, both individually and in their associations, the purpose being to be as helpful to them as possible and at the same time to find employment for graduates and other students. The conventions of both the Associated Ohio Dailies, of which Professor O. C. Hooper is again secretary, and the Buckeye Press Association (weeklies) were held in Columbus last winter, and the School was actively represented at each. In connection with the Buckeye Press Association, there was the annual Newspaper Show with awards, which was sponsored by the School. The cups that were given to the



best in each of four classes and the expenses of the judges were met by an appropriation from Dr. Thomas H. Kibler's Extension Fund. It is notable that two of the newspapers that won in the show won also later in the year in the exhibit of the National Editorial Association at Memphis.

In the organization of the Ohio Newspaper Association, with a Secretary and Field Manager (H. E. C. Rowe, formerly a student in our school), the purpose of which is to unite dailies and weeklies for the promotion of journalism in the state, the School has had a part. The association is financed by dues of members, but the School is giving cooperation wherever possible. Newspapers of the state have been organized by districts, and of the Central district, in which about forty papers are eligible to membership, Professor O. C. Hooper is now serving as president. One meeting of the district has been held on the campus, with a profitable discussion of classified advertising and a luncheon at the Faculty Club, as well as an inspection of the printing plant of the University Press. The School is about to undertake, in connection with the Association, a survey of advertising rates, the purpose of which is to show the need of greater uniformity.

The Robert F. Wolfe Journalism Honor medal was this year awarded to Robert W. Funk, of Reynoldsburg, for excellent classroom work and for the preparation of a thesis on the history and development of "The Newspaper Headline." The increment of the unused portion of the Wolfe fund has been used in the purchase of books for the School of Journalism Library.

Owing to business depression, it has not been easy to place all the graduates, especially the young women. Most of the young men have found employment, sometimes by their own efforts and at other times with the help of the School.

The School of Journalism this year conducted its seventh annual competition among the high-school publications of the state. Sixty-four newspapers and fifteen magazines competed, a few less than the record total of last year. A greater interest and a decided improvement in high-school publications has come about through the continuation of this competition.

The Journalism Association of Ohio Schools, an organization of high-school editors, business managers, and teachers of journalism, held two conventions on the campus during the past year. The Association, now in the third year of its existence, is sponsored by the School of Journalism, and Lester Getzloe, Assistant Professor of Journalism, was again elected secretary-treasurer. The general convention this year was so well attended that the size of visiting delegations from the schools represented may have to be restricted in the future, on account of the difficulties in housing and entertaining the delegates.

DEPARTMENT OF SOCIOLOGY AND THE SCHOOL OF  
SOCIAL ADMINISTRATION

*Chairman, J. E. HAGERTY*

The registration in Sociology for the year was as follows:

Summer	Autumn	Winter	Spring	Total
197	847	935	966	2945

The plan of having elementary Sociology consisting of General Sociology 401 and Applied Sociology 402 placed under teachers of professorial rank went into operation this year. General Sociology, in charge of Professor Lumley, is taught five hours a week each quarter. Dr. Lumley lectures to the students two days a week and the students are then grouped in small sections, from thirty to forty in a section, and are taught by quiz instructors three days a week. The quiz instructors are assisted by readers who grade examination papers written each week. Sociology 402, Applied Sociology, is in charge of Dr. North and is taught in a similar manner. We consider this plan of teaching elementary Sociology a success. The method will be improved this coming year, as arrangements have been made to reduce the size of the sections taught by the quiz instructors so that the instructor may have charge of the students in his sections without the assistance of readers to read papers.

Arrangements have been made to have Sociology taught in Extension courses in the Extension Department, and Dr. Denune has been released from most of his work in the Department to give these extension courses.

Dr. Denune's rank has been changed from instructor to Assistant Professor of Sociology, and Miss Julia Griggs has been promoted from Assistant in Statistics to Instructor in Statistics.

We are recommending again the appointment of a Professor to teach Anthropology in the Department of Sociology. Professor W. C. Mills of the Archaeological Museum taught for a number of years a course entitled Primitive Man in Ohio, and upon his death this year Mr. Shetrone completed teaching the course. This course will not be continued. An elementary course in Anthropology running through two quarters, at present taught by Miss Spaeth, has been offered for a number of years. The anthropological teaching in the university is wholly inadequate. In a number of universities separate departments have been created to teach Anthropology. We have recommended that a professorship be created in the Department of Sociology for the teaching of Anthropology because of the close relationship of Anthropological materials to Sociology and because the work can be taught much more satisfactorily and economically in the Department of Sociology than in a separate department. The Archaeological Museum on the campus with its rich array of materials and the investigations of the museum staff will furnish excellent laboratory materials for the teaching of Anthropology. Owing to these circumstances and also because of the great interest in anthropological investigations everywhere it will be difficult for the university to defend longer its failure to provide adequate facilities for the teaching of, and investigations in, Anthropology.



## THE SCHOOL OF SOCIAL ADMINISTRATION

The School of Social Administration was organized last year. Its registration for this year was as follows:

Autumn	Winter	Spring	Total
106	109	101	316

The employment of a professor to teach Social Executive work has been authorized. The American Association of Community Organization has been cooperating with the School of Social Administration in the appointment of a Professor. This Association has agreed to employ him the quarter he is not on duty at the university on a good salary basis with the purpose of giving him excellent experience in executive work for his teaching. It is the intention of the School of Social Administration to offer a year's course for executives leading to the Master's degree. This course will cover in a thorough way the lines of work offered for graduate credit by the Department of Sociology with the cooperation of the American Association of Community Organization in the summers beginning with 1921.

The course on Girls' Club Work, Sociology 651, has attracted considerable attention. Each year national associations loan to the university competent lecturers, each remaining two weeks, to assist in giving this course.

To train students adequately as social workers in the recreation field, it will be necessary for the School of Social Administration to offer an additional year's work and to offer field work to students graduating in the recreation division.

The work in Social Administration has expanded to such an extent that it is necessary to find field work for the students in several cities, for example, Cleveland, Dayton, and Pittsburgh. The importance of Social Case Work and Field Work requires that they be taught each quarter in the year. Because the services of one teacher are inadequate, we are recommending the employment of a second teacher in these fields, and one of professional rank, beginning with the autumn quarter of 1929.

## THE BUREAU OF BUSINESS RESEARCH

Director, SPURGEON BELL

The work of the Bureau of Business Research in 1927-28 is reviewed by divisions in this report, and some account is also given of the staff changes of the year. Attention is also called to certain fields of activity which are now being neglected.

### ADMINISTRATIVE, EDITORIAL, AND GENERAL ECONOMIC RESEARCH

*The Nature of Management and Economic Research.* In the natural sciences the equipment, the chemicals, and the facts are all laboratory matters. But in business and economic research the facts must be secured through negotiations with operating business concerns. In business research the facts may be classified and analyzed by clerks operating under directions in accordance with approved methods. These two circumstances require management service to maintain lively contacts with the sources of information and considerable expense in the maintenance of statistical clerks. The services and outside contacts also involve considerable expenditure for stenographers and routine workers.

### BUREAU SERVICES TO BUSINESS AND INDUSTRY

1. *The Bulletin of Business Research.* About six months after the employment of the Director of the Bureau, the *Bulletin of Business Research* was begun with a view of giving some publicity to the research work of the Bureau and for the purpose of maintaining such contact with cooperators that the program of the Bureau would receive general cooperation from business and industrial executives.

Through the *Bulletin*, certain continuous research work is carried forward, which executives use from month to month. The executives of the State are learning the value of employment information by using, from month to month, Ohio employment data, which the Bureau collects from some 800 cooperators, representing over 40 per cent of factory employment in Ohio. From this data Chamber of Commerce Secretaries have learned to talk of their communities in terms of the relative stability of employment prevailing in one community in comparison with another. There has been recently a demand for 2400 extra copies of one of the employment exhibits before it was even published, because attention had been called to the fact that it would be published.

By this *Bulletin* data the Bureau has given wide advertising to one of its forthcoming studies on Industrial and Commercial Ohio and has already gotten its readers in the habit of interpreting employment data so that the content of the more comprehensive work will be appreciated and understood.

2. *Employment Releases.* In order to secure cooperators the Bureau sends the compiled data to the cooperators as soon as it is assembled. About ten to fifteen days later it appears in the *Bulletin of Business Research*.

Retailers are beginning to ask for the Bureau's releases on employment conditions over the State. One community has recently asked for two hundred



of these releases for the merchants. The Rotaprint machine makes it possible to run off this material very rapidly.

3. *Release on Automobile Bills of Sale.* The Bureau now sends a monthly release to the automobile dealers of Ohio, showing the registration of automobile bills of sale in about sixty counties of the State. This data includes trucks as well as passenger cars. Registrations in seven of the chief counties are reported by makes.

One automobile company, whose attention was directed to the Bureau's work through these contacts, has recently employed two men to come to the Bureau office and spend about one month copying data from Industrial and Commercial Ohio even prior to its publication.

Business men are actually making market analyses and applying research methods to the conduct of their business by reason of the inspiration and data they secure through contacts with this Bureau.

In case the Bureau decides to make a study on the used-car problem, or on any other automobile management problem, it will have an audience at once for its product and will readily secure the necessary cooperation of the trade.

*Statistical Unit of the Administrative, Editorial, and General Economic Research Division of the Bureau.* The Statistical Unit consists of the Bureau Statistician, Assistant Statistician, and several part-time students who act as statistical clerks and analysts. Not only do all members of the Bureau Staff regularly consult with the statistical unit in regard to methods of analyzing and presenting statistical data, but the graduate students in increasing numbers use the Bureau as a consulting service. It assists in compiling and charting data for all staff members and also for graduate students who write on subjects which are accepted by the Bureau as Bureau studies. The Director of the Bureau consults with graduate students in regard to subjects for research and sources of statistical data. The student consults his instructors and the members of the Bureau Staff along definitely accepted lines. In this way the Bureau is building up a cooperative relation with the teaching staff in the development of a high-grade graduate program in the College.

*Researches of the Administrative, Editorial, and General Economic Unit.* The members of the staff who devote a considerable amount of their time to consultation and service work also carry on as many individual researches as they can, considering the amount of service work they may be called upon to perform. During the past year the Industrial and Commercial Ohio project has been carried on in this unit of the Bureau. When Mr. Watkins was here he always had in process a research project in addition to his service work. For example, he was the author of "The Construction Industry in Ohio" and of another report, "Ohio Employment Studies." The Director of the Bureau, in addition to his work on Industrial and Commercial Ohio, has written various Supplements to the *Bulletin of Business Research*. These are listed under the next head.

#### GENERAL ECONOMIC AND STATISTICAL REPORTS COMPLETED AND IN PROCESS 1927-28

##### *Reports Completed in 1927-28*

Industrial and Commercial Ohio, Section I (Report completed in July, 1928)

Supplements to the Bulletin of Business Research

Rise and Fall of Building Booms—February, 1927

Real Estate Vacancies in Ohio Cities—June, 1927

Employment Situation in Ohio—March, 1928

Manufacturing Concentration in 20 Counties of Ohio, June, 1928

*Reports in Manuscript Form*

Commercial Arbitration in Ohio

Salaries and Cost of Living of University Professors

Least Square Straight Line Trends and the Cumulative of Computing

*Reports in Process*

The Factors Underlying the Volume of Construction

The Forecasting of Department Store Sales in Ohio Cities

The Valuation of Building for Taxation by Ohio County Auditors

Industrial and Commercial Ohio (Various Sections)

*Researches Projected*

Local Variation in Wage Rates in the Counties of Ohio

Localization of Selected Industries (Reports following Industrial and Commercial Ohio)

Various Supplements to the Bulletin (Setting forth portions of studies of immediate interest to Bulletin readers)

Population Trends in the Counties of Ohio

The Best Method of Computing the Annual Population of Ohio Cities on the Basis of the Statistics Available in These Cities

MARKETING RESEARCH

In regard to the relation of the marketing research to the college teaching departments much might be repeated that was said under the caption of Administrative, Editorial, etc. The teaching staff in marketing takes a lively interest in Bureau studies and uses the Bureau facilities in the promotion of the researches of graduate students taking Doctors' and Masters' degrees. These studies also have a bearing on the subject matter of courses taught in the College of Commerce and Administration.

A glance at the varieties of researches turned out in the marketing field during the past year will make it evident that a field man is needed. Mr. Grinstead assists the Director of the Bureau in the conduct of marketing researches and also in making the field contacts required if due cooperation is to be received from marketing agencies.

One of the subjects calling for particular study and attention at the present time is the matter of the competitive position of the small retailer. It will be almost impossible for the Bureau to study this subject effectively unless it secures the services of a high-grade field man who can collect material through field interviews, personal contacts, and the analysis of local data.

During 1928-29 Mr. Grinstead's attention must be devoted mainly to the *Mark-Down Study*. The merchants of the entire State will have their attention drawn to this study because of its national character and because of the attention to be given this study by the National Retail Dry Goods Association. Moreover, this study will be compared with those made in other localities.

However, the competitive position of the small retailer is also a rather urgent problem because of the rapid changes going forward in this field of distribution. For this reason, it is desirable for the Bureau to employ a man who would devote himself mainly to field work in marketing research.

A list of marketing studies completed and in process, 1927-28, is given below:



## MARKETING STUDIES COMPLETED AND IN PROCESS, 1927-1928

*Reports Issued*

Section I—Merchandise Returns in Department Stores of Ohio  
Merchandise Repossessions in the Installment Furniture Trade  
A Critical Analysis of the Operation of the Bankruptcy Law in Ohio  
Foreign Trade Activities in Ohio  
Administration of Personnel Functions in Ohio Department Stores  
The Social and Economic Relations of the Farmers with the Towns in  
Pickaway County, Ohio

*Reports in Manuscript or Galley Form, July 1, 1928*

Section II—Merchandise Returns in the Department Stores of Ohio (in manuscript)  
Unfair Competition in the Retail Field (in page proof)  
An Analysis of the Demand for Apples (manuscript in the hands of Bureau editor)  
Stock Control in the Purchase and Sale of Men's Ready-to-Wear (manuscript in the hands of Bureau editor)  
Commercial Arbitration in Ohio—  
Part I—Legal Aspects  
Part II—Economic Aspects  
(Reports in hands of editors)

*Reports in Process, July 1, 1928*

Group Buying in the Retail Field (Report will probably be finished in the fall of 1928)  
Installment Selling in the Furniture Trade (To be completed in the fall of 1928)  
Price Mark-Downs in Retailing—Ohio Experience (Study in initial stages, being undertaken in cooperation with National Dry Goods Association; a nation-wide study to be completed in 1929).

*Marketing Studies Projected for Consideration as the Program Progresses*

Stock Control in Retail Furniture Stores  
Section II—Stock Control in the Purchase and Sale of Men's Ready-to-Wear—Constructive System of Control and their Application  
A Study of Hour Sales in Department Stores in its Relation to Advertising, Opening and Closing Hours, and Personnel Problems  
The Trend of Wholesaling  
The Competitive Situation of the Small Retailers  
The Organization and Operating Costs of Retail Credit Bureaus  
Overhead and Direct Costs of Accounts Receivable  
The Marketing of Fresh Fish—Ohio Experience  
The Distribution of Canned Goods—Ohio Experience  
Forecasting Retail Sales in Ohio Cities—Use of Employment Data

*Continuous Services in Marketing Field*

Monthly Retail Dry Goods Service  
Monthly Wholesale Grocery Service

## INDUSTRIAL MANAGEMENT RESEARCH

Since there is only one man now doing research in this field and he is able to devote half time to research, the studies in process will take all of the time

which Mr. Wissler can give. The Lateral Integration study will be carried forward into 1929.

A study for Ohio factories similar to that made on the Personnel Functions of Department Stores is contemplated in the next biennium.

Other personnel topics already treated briefly in Labor Management are to be carried forward into the next biennium.

Because of the fact that Mr. Wissler is tied to his office by reason of his devotion of half time to teaching, he cannot give the necessary attention either to field contacts or to the collection of data which can be secured only by factory visits. Moreover, executive interviews are important in connection with studies in progress. It is for this reason that a field man is recommended for the next biennium. As the industrial management research expands, the field man will later be needed for the same reason that a marketing field man is required. The best combination is an experienced research man and an understudy who does a certain amount of field work on the studies of the man with whom he is associated and carries forward certain studies under the guidance of the more experienced man. This type of organization creates greater stability in the research program and results in less disorganization as a result of the loss of the more important members of the staff.

A list of industrial management studies completed and in process, 1927-28, is given below:

#### INDUSTRIAL MANAGEMENT RESEARCHES COMPLETED AND IN PROCESS, 1927-28

##### *Reports Issued in 1927-28*

- Labor Management (Now in the bindery; to be distributed in July)
- Industrial and Commercial Ohio (This report was mentioned under a preceding section, but it also has a distinct bearing on the industrial management field).

##### *Reports in Manuscript Form, July 1, 1928*

- Material Control in Foundries and Machine Shops (Now in the hands of Bureau editor)

##### *Reports in Process, July 1, 1928*

- Foremanship Training (Should be completed in the fall of 1928)
- Lateral Integration in its Relation to Irregularity of Employment of Men and Machinery
- Analysis of the Operation and Subject Matter of House Organs

#### ACCOUNTING RESEARCH

The Bureau should have a matured worker in the accounting field to be assisted by Miss Lowrie. The salary recommendations call for this type of staff worker. He would occupy a position similar to that occupied by Professor Greer in 1926-27.

In listing accounting studies in prospect, only those in immediate prospect are mentioned. There are many others which could be listed. The accounting work was necessarily sacrificed in the contraction of the Bureau program in 1927 because the appropriation did not admit of its continuation. The recommendation in the budget calls for its reinstatement in about the position it occupied in 1926-27.



A list of accounting studies completed and in process, 1927-28, is given below:

#### ACCOUNTING RESEARCH REPORTS, 1927-28

##### *Studies Completed, 1927-28*

- Operating Results of Ohio Wholesale Grocers—Year 1926
- Accounting Requirements of a Small Hatchery—Preliminary Report (Study made at the request of the College of Agriculture)
- Location, Circulation, and Rates of Ohio Daily Newspapers (Statistical report on the basis of cost study to be published in July or August).

##### *Studies in Manuscript or in Hands of Printer, July 1, 1928*

- Operating Incomes and Expenses of Ohio Daily Newspapers (In manuscript form; will be ready for distribution in August or September).
- Operating Results of Ohio Wholesale Grocers—Year 1927 (In manuscript form).

##### *Studies in Prospect, July 1, 1928*

- Incomes and Expenses from the Operation of Hatcheries—1927
- Accounting System for Hatcheries—Final Report
- Incomes and Expenses of Retail Furniture Dealers
- Stock Control Studies (in cooperation with Marketing Staff)
- Uniform Accounting System for Various Building Trades

#### INVESTMENT AND BANKING RESEARCH

The Bureau had a research assistant in 1926-27 who worked on researches in the investment field. It was necessary to discontinue his services in 1927-28 because of lack of funds. His studies have, however, been completed and the first one issued is out of print, although it was distributed on the basis of a charge of fifty cents per copy.

The studies to be undertaken always depend to some extent on the interest and training of the man selected for a particular position.

The fields to be covered are: Banking, Real Estate, Building and Loan, and Other Investments. The real estate educational division of the State Organization of Real Estate Boards has requested a half-dozen or more studies. The Building and Loan group has also asked for additional studies. The banking group has been neglected, except that the Professor of Banking in the University is urging certain banking studies. The circumstances will serve to indicate the background of our request in regard to facilities for research in this field.

#### INVESTMENT AND BANKING REPORTS PUBLISHED, 1927-1928

- Money Lending Practices of Building and Loan Association in Ohio.
- Historical Balance Sheet Analysis of Ohio Building and Loan Associations. (These reports were the completion of work done mainly in 1926-27, when the major part of the expense of their production was incurred).

#### CHANGES IN THE BUREAU STAFF DURING THE YEAR

At the end of the year 1927-28 H. D. Comer resigned as Assistant Professor of Marketing Research and his place in the organization was taken by L. H. Grinstead. Ralph J. Watkins resigned his position as Bureau statistician for the year 1927-28, but has been re-employed for the year 1928-29. George Starr resigned his position in the Bureau to accept the Directorship of the

Bureau of Business Research of the University of Indiana. Willis Wissler accepted half-time employment as Professor of Industrial Management in the department of Business Organization for the year 1927-28, and this arrangement is being continued for the year 1928-29. The following research assistantships were discontinued in 1927-28: Research Assistant in Investments, previously held by H. Morton Bodfish; Research Assistant in Marketing and Industrial Management (employed to do field work), previously held by B. F. Timmons; Research Assistant in Statistics (employed to assist in the routine editing of Bureau publications), previously held by A. E. Chandler. The Bureau also reduced the extent of its employment of graduate students.

At the end of 1926-27 the Bureau was on an operating basis of approximately \$80,000 per year. For the 1925-27 biennium the Bureau's total appropriation was only \$120,000, approximately one-third of this amount being spent in the year 1926-27, and about two-thirds in the year 1927-28. This smaller expenditure in the first year of the biennium was due to the time required to recruit the added staff employed in 1925-26. In 1927-28 it was necessary to bring the annual expenditures down to \$60,000 per year. The nature of the contraction is indicated in the list of the positions discontinued. However, in February, 1928, the position of Assistant Editor of Bureau publications was created, and Miss Viva Boothe was employed to fill the position. At the end of the year 1926-27, H. C. Greer was employed for full-time teaching work and his position in the organization has not yet been filled. The stenographic staff was slightly enlarged in 1927-28.

#### FIELDS OF RESEARCH NOT COVERED BY THE BUREAU PROGRAM

Prior to 1927-28 the Bureau held a strong position in Accounting Research, which was carried on mainly by Professor H. C. Greer. It is desirable that the Bureau re-establish its position in this field by the employment of a high-grade man in Accounting Research. It was also necessary to discontinue investment research in 1927-28. It would be desirable to have at least one man working in this field. No attention is now being paid to the public utility problem. The Bureau should also be in a position to combine a study of the content of college courses with a study of employment records of graduates of the College.



## COLLEGE OF DENTISTRY

Dean, HARRY M. SEMANS

It might be well to present first what is being done in the way of research in the College of Dentistry. The new building, new equipment, certain allotted places, has enabled the college to institute a definite line of procedure in the histological and pathological investigations of the teeth. This work is superintended by Asst. Professor Kitchin; his report to the dental faculty June 11th, 1928, follows:

### RESEARCH IN COLLEGE OF DENTISTRY

There are now outlined the following projects for investigation:

Project 1. *The Lymphatic Circulation in Human Dental Tissues.*

Project 2. *To Determine the efficiency, from a Bacteriological Standpoint, of Various Materials Used in Putrescent Root Canals Preparatory to Filling.*

Besides the above, several short projects, as (1) the penetration of the apical third of the human cementum by basic stains, (2) the relation of cemental development to the condition of complete impaction, and (3) the chemical analysis of the cementum are being worked upon from time to time as opportunity offers.

Most of the effort since January 1, 1928, when investigative work proper was initiated, has been spent on Project 2. The literature on this subject has been reviewed and abstracted, eight different materials of proved and unknown value have been tested in (1) patients' teeth, (2) extracted teeth, and (3) test tubes. Report on this is being given in detail under this project.

Able assistance in this work has been rendered by the Department of Bacteriology of the University. It is our plan to enlist specialists from the various departments on the campus to work with us on our dental problems, in so far as it can be done.

A new Black's grinding machine has been erected and adjusted. About fifty ground slides have been prepared in connection with different projects and forty miscellaneous slides prepared for class use by the Department of Anatomy.

The review of the literature on the various subjects under consideration has included abstracts in most cases. Perhaps seventy-five to a hundred articles have been gone over in this manner.

Part of these projects are carried along, as noted, in our clinics, thus enabling us to select certain advanced and alert upper class students in dentistry to assist in the work. It is expected that such procedure will be continued, thereby giving to a selected number of seniors opportunities to become familiar with research work. It is also hoped that a few graduates occasionally may avail themselves of such opportunities. To make such work more effective, the College of Dentistry expects in the near future to recommend the establishment of elective courses, so that proper credit may be given to those concerned. There should then be no reason why real graduate work could not be undertaken. By the establishment of selected courses in Oral Surgery, Operative and Prosthetic procedures, Dental Immunology, and Dental Ceramics offered to advanced students and graduates, the College of Dentistry will bring itself to a better standing both with the University and the general educational world. Dentistry, naturally, offers an interesting field in research in public-health service. Stomatological investigations will have a large bearing upon the future health of the people. To serve in the best way with such work we must increase, to a certain extent, our dental personnel, both by increased time of our part-time instructors and some additions to the staff.

Two years ago we commenced a reorganized summer session in our clinics. Last year we had fifteen to twenty junior and senior students working through-



out the entire summer. The present plan is of a self-supporting nature. This year we have a decided increase in the number of students engaged in summer work. There is a decided educational value in such work, and it is also essential for maintaining clinical material (patients) throughout the year. With a closed clinic during the summer many patients lose interest and lose sight of services offered during the autumn, winter and spring months. Such clinical service throughout the year is just as essential to the College of Dentistry as is the University Hospital to the College of Medicine. In a few years it may be well to offer summer clinical work as credit courses.

In our new building scheme we have a small but very serviceable magazine stack room. Here are gathered old dental magazines from time to time. These are thus available to us for bound volume purposes in the dental departmental library, new and replacements. They are also available for exchange with other dental libraries. We have been able this year to help the dental schools of Toronto and Columbia in filling out missing items.

The session of 1927-28 closes our entrance requirement into dentistry of but one year of Arts. With the opening of the year 1928-29, two years of credit in a College of Liberal Arts or Science will be required. It must be recognized that dentistry is a highly specialized unit in public-health service; that dentistry cannot maintain its dignity with medicine by remaining only ancillary to medicine. Therefore, the requirement of two years of Liberal Arts as a minimum for entrance will allow a broadening in our fundamental medical science training to dental students. Some fifteen or more university dental schools are now on a two-year entrance basis, and all, no doubt, will come to it within a few years. Among these already on such a basis is our neighboring School of Dentistry at Western Reserve University.

We have been informed that the Carnegie Foundation for the Advancement of Teaching contemplates the placement of money to be used to the best advantage in some of the dental college libraries. Anticipating the possibility of receiving such aid we have notified the Foundation that we would desire such a monetary advantage.

The year has been a satisfactory one from the clinical standpoint. Approximately five thousand (5000) patients have been admitted with over twenty thousand (20,000) pieces of dental work of various types.

The instructional work that is given in children's dental clinical procedures and immunology, in order to have proper value, should be placed under the charge of a full-time director. It is well to keep in mind that much the larger part of junior and senior time is spent on patients. The various clinics are open from 9:00 A. M. to 4:30 P. M., excepting Saturday afternoons and Sundays. This makes a service of forty hours per week. The juniors are scheduled from twenty-five to thirty hours per week and the seniors the full forty hours. Wherever we have certain specialized types of service under the instruction of part-time special instructors, we must of necessity cut down to a considerable extent such service. Orthodontics (correction of irregularities), as an example, is under the care of Dr. Earl Jones. His part-time service amounts to about eight hours per week, hence only a limited number of children can be handled at present. Our work in oral hygiene (immunology), X-ray, oral surgery, crowns and bridges and dental porcelain are also all more or less limited to a part-time service. A dental infirmary, manned and equipped to give constant everyday service of all types in its various clinics, is



most essential in the near future in order to give the student the full advantage of a high grade college of dentistry.

Drs. Cottrell, Graham, Hebble and Semans attended the annual meeting of the American Dental College Association at Washington, D. C., March 26, 27, 28.

Major Neal A. Harper, dental surgeon in R. O. T. C., after two years of very pleasant association with us has been detailed to Washington, D. C. Major Samuel Randall has been detailed by the War Department to take Major Harper's place. Major Randall is a graduate of this University. (Dentistry, 1910).

The following were elected from the senior class as members of the honor dental fraternity, Omicron Kappa Upsilon:

Sidney Clark Beeson  
Homer Austin Bliss  
Robert Jerome Carabin  
Willis Goller  
George Washington Schwan  
Earl John Spencer  
Coral Valice Umbaugh

There have been no additions or withdrawals this year in our instructional staff.

## COLLEGE OF EDUCATION

*Dean, GEORGE F. ARPS*

I am herewith submitting the Annual Report for the College of Education for the year 1927-28.

The departmental reports herewith incorporated are submitted as presented by departmental chairmen. The statistical data set down in certain departments are such as remain uncalled for by the statistical office. The number of meritorious scientific papers published possess qualitative value not inherent in the ordinary 'run-of-mine' statistical information. Likewise data covering such professional activity as addresses delivered before learned societies and scientific meetings attended contribute to an understanding of the growth of the qualitative character of the personnel and the bearing of this growth on instructional effectiveness. It is worthy to note that the central administration has without exception given precedence to qualitative considerations.

### LABORATORY SCHOOLS

The need of laboratory schools for practice teaching, for demonstrational purposes and for investigation of learning, lower school curricula and methods of instruction, has been acute for many years. These schools are as necessary to the College of Education as are the Agricultural and Engineering Experiment Stations to the Colleges of Agriculture and Engineering. They stand in relation to the College of Education as does the Hospital to the College of Medicine. No large University, public or private, in the United States supporting a teacher-training program of magnitude is without this indispensable adjunct to its program. The Michigan State Legislature at its last session appropriated more than \$1,000,000 in support of a University Elementary School, having several years ago made appropriation for a University High School. Wisconsin, Minnesota, and Illinois more than a quarter of a century ago provided laboratory schools. Moreover, all of the state-supported colleges and universities of Ohio have long been provided with these necessary facilities, excepting only the Ohio State University.

Such private institutions as Chicago and Columbia Universities have provided laboratory schools for more than thirty years. And this notwithstanding the fact that state universities are under direct obligations to the public schools, in fact, are part and parcel of public school systems. No such direct obligations obtained at privately supported institutions. It has been recognized everywhere that laboratory schools constitute necessary and indispensable facilities in the training of teachers for public service. The absence of such schools at the Ohio State University has for many years constituted an interesting anomaly, and more especially so since the College has been in existence for twenty-one years and ranks third in size when compared to similar colleges throughout the United States.

### THE EDUCATION BUILDING

The increase in student enrollment both in the undergraduate and graduate ranks and the consequent increase in personnel no longer make it possible to accommodate the demands on the building.



The Department of School Administration will not be able to provide desk room for the additions to its staff.

The Department of Principles is without conference rooms indispensable to practice teaching, while recent additions to the staff present a serious office problem.

The Bureau of Educational Research is congested to limits beyond which it cannot go.

In the Department of Psychology a considerable number of graduate students are without accommodations at all suitable to effective work. Two and three students occupy the one available dark room; three students are crowded in the general experimental laboratory; two students have set up their apparatus in the stockroom of the shop; every available room is occupied either to capacity or beyond. The offices of some of the professors have been invaded by students who could not be accommodated elsewhere. This congestion is due to the large increase in the number of advanced graduate students and to the experimental character of the problems undertaken. There are at present over sixty graduate students in the department.

The general growth of the College is crowding the space devoted to the office of the Dean. The addition of the Junior Dean will make it necessary to abandon one of our small classrooms. It now appears as though all small classrooms will have to be abandoned in the near future. The Educational Library is entirely inadequate to accommodate the needs of the summer quarter. During the autumn, winter, and spring quarters the Library facilities are used to comfortable capacity.

As soon as funds can be made available the building should be completed, if we are to avoid more serious overcrowding than at present exists.

#### EDUCATIONAL CONFERENCE

Each year the conference continues to win favor not only with the teachers of the State and a limited number from neighboring states, but with lay people broadly interested in education. The facilities of the University are sorely taxed to accommodate the larger sections of the conference. Each year an increasing number are turned away.

Three new sections have been made possible by an increase in the lecture fund. These sections are (a) Higher Education, (b) Adult Education, and (c) Attendant Supervisors, School Nurses and Visiting Teachers. Public pressure for additional sections will, of necessity, be withstood until adequate provisions are made for existing sections. There is need for improvement in the quality of certain sections dealing with large aspects of public education. In these circumstances no further expansions are contemplated in the immediate future.

#### DEPARTMENT OF MUSIC

This department has flourished beyond expectation. The heavy enrollment and the extra-curricular activity severely taxed the resources of the department. All members of the department carried an unreasonably heavy teaching load in addition to serving the general musical interests and demands of the campus. The President's authorization of two additional instructors relieves what would otherwise have been an exceedingly burdensome condition. That the department uncomplainingly met the heavy curricular and extra-curricular demands is fine testimony to their loyalty. The size of the teaching load had,

perhaps, no parallel on the campus. In these circumstances productive scholarship is clearly beyond reasonable expectation. Such conditions, if long continued, will not only undermine the quality of instruction but make impossible productive scholarship.

There is very great need of increasing the number of necessary instruments if the orchestral demands of the campus are to be realized. If this handicap is removed notable progress would undoubtedly follow. Other facilities are badly needed for the regular work of the department. It is hoped that the State will recognize and accept the consequences of the success of the department.

#### EDUCATIONAL CONSIDERATIONS

(a) Student enrollment has multiplied beyond proper educational care. Social demands have multiplied curricula so as to include types of service not at all comprehended in a college of fifty years ago. The older sciences have differentiated and multiplied knowledge so as to modify essentially their original character and purpose. Their applied and practical character is evident. Advanced graduates in such sciences as the non-biological and biological sciences largely enter applied fields of service. But this should not be interpreted as antagonistic to the pursuit of the theoretical or "pure" interest of the sciences. New sciences have appeared while an endless array of new courses undreamed of a half century or more ago have been written into new curricula. So extensive has been the growth of knowledge that new departments and new colleges have been organized. Thus the old order changeth.

Private institutions can resist changes more successfully since they are subject only to a limited amount of social pressure. They can continue to admit only students of known verbal competency and thus maintain more nearly their original character than is possible by a public educational institution which must of necessity yield to social pressure. State universities cannot restrict their selection to the verbally minded; they must admit, among others, the socially and motor-minded and must offer appropriate curricula. It does not follow, however, that the student low in verbal intelligence is necessarily inferior, although he is likely to be so judged since the conventional criteria for admission are verbalistic. It frequently follows that a student of low verbal competency but of high intelligence is conspicuously successful socially. His record in college, however, may preclude graduation.

(b) Many instructional and administrative problems in a large state university find their origin in the varying degrees of intelligence which the State has compelled the University to accept and serve. This is inevitable if a state university is to serve its varied citizenry and its diversity of occupations. Efforts to solve these problems are likely to be abortive, or accompanied by much travail, in case methods of teaching and forms of organization remain unresponsive to a changing order. Wisdom dictates a policy of cooperation and internal adjustment to insistent social pressure and to the growth of scientific and humanistic knowledge. Any commonwealth as a whole will insist on making knowledge useful and practical, without understanding that the so-called impractical has later been found to be exceedingly practical. Crass practicality is likely to prove least valuable. There is really no necessity of drawing the line between the applied and theoretical aspects of any science.

(c) The character of college teaching is under serious review especially in institutions under the necessity of inward adaptation and adjustment to in-



sistent social demands. With the advent of a large body of students of varying types of intelligence, rather than, as earlier, a fairly uniform type, the first defensive resort of tradition is likely to invoke the principle of exclusion, now the common practice of private institutions. All students deficient in verbal memory would largely constitute the excluded class. Estimates vary as to what percentage of high-school graduates should be given an opportunity according to this principle of exclusion. Whatever the percentage, the basis of admission would be probably successful in satisfactorily negotiating courses requiring a high degree of rote memory.

High grades in our secondary schools would hardly be regarded as anything more than evidence of a faithful reproductive memory. The University to a deplorable extent continues the process. Slavish reproduction of facts is the prevailing methodology. Few instructors organize their instructional material with the definite aim of precipitating a thought crisis in the mind of the learner. The study of subject matter from this point of view is "method"—a term still anathema in responsible academic quarters. Few have even gone so far as to gain a clear notion of what constitutes the thinking process, so entrenched is the doctrine of erudition as such. Knowledge of subject matter is regarded as all-sufficient, as though the facts of a subject inherently carry effectiveness.

It is probably true that our "high-grade" students are endowed with a high degree of verbalistic competency, and it is also probably true that they may negotiate the ordinary curriculum without having appreciably exercised any of the higher intellectual functions. In these circumstances it is quite probable that they may complete course after course quite innocent of any real thinking, without having experienced a single thought crisis. Complaint that students do not think is quite generally true (in class). That students cannot think is, of course, not true. No student is required to synthesize facts when the recitative procedure consists essentially in faithful reproduction, even if orderly and logical. Nor is this requirement obviated when the instructor instead of the student recites (lectures) in the same reproductive manner.

How to endow significant facts with compelling meanings is clearly a case of intelligent methodology. Facts of the highest potential value may be so egregiously mishandled as to become positively harmful. It is safe to say that no subject is made up of facts which inherently carry their own virtue. If this were true and the test of value were citizenship, then one of the several professions—medicine, engineering, law, teaching, etc.—should stand out above all other as composed of superior men and women. The ethical value of any fact or set of facts lies in the attachment of significance through methodology. A fact *acquires* virtue; it does not natively possess it. Any fact, therefore, however humble, may acquire cultural significance if it but filters through significant hands. Mathematics, the foundation of modern engineering, is most likely to be the carrier of its own value. A critical attitude of accuracy (truthfulness) is acquired by the engineer, since the practical consequences of error may be socially and industrially fatal. The study of mathematics lies at the basis of this attitude. By raising the question of truth and error above the limen of consciousness, mathematical process may acquire a degree of civic virtue not latent in any other discipline.

From the above it may be apparent that the proper approach to instructional improvement and to civic righteousness is a study of methodology. When facts are interpreted and synthesized by means of the productive imagination



real thinking cannot very well be avoided. Facts which are not organized into a student's personal system of thinking are likely to lie inertly in the mind as so many incumbrances. This lack of proper educational treatment of facts is likely to impoverish youth and incapacitate them for constructive social careers. We appear mostly concerned with efficient means to increase the number of memorized facts. We require twenty books, articles or what not references, to be read and abstracted in a single quarter. "Beware of the man of few books."

There is no royal road to instructional improvement. Conventionally it is sought in such mechanical matters as class sizes, in standardizing processes other than routine, in improving the grading system, in changing the marking system, in reorganization with or without considering cognate relationships, in revising rules or adding to them, in filling out questionnaires without interpreting the results in terms of the educative process—in brief, doing many desirable things not one of which is the most desirable. All these matters deal essentially with the mechanics of education; they are external, extrinsic, time-consuming substitutes for thinking and require little or no imagination. Our faith that machinery will work the educative miracle is comparable to our faith that facts in and of themselves carry characteristic values.

Edgar W. Knight puts the matter thus: "Interest in the externalities of education continues to grow. The colleges are becoming more and more absorbed in their own machinery. That the emphasis in higher education *in this country* (italics mine) is not upon real and thorough teaching but upon the mechanics of organization, few people who know the conditions could deny. The anxiety is not for ministration which can be felt but for administration which can be seen."

The problem as stated is simple; the solution difficult.

(d) The teaching load has a direct bearing on teaching effectiveness and on the quality and degree of productive scholarship. Overloading instructors is probably more potent in reducing the quality of instruction than size of classes, while the effect upon the scholarly development of the teaching personnel is frequently apparent. Since scholarly attainments bear directly upon teaching effectiveness, it follows that the relation of the teaching load to quality of teaching should receive more than *a priori* attention. The bearing of the load on the quality of instruction is apparent. Fatigue is one cause of devitalized teaching. Fortunately, standardization has not as yet made much headway here. In a fixed schedule the differential of subjects taught is lost, the distinction between elementary and advanced teaching disappears, the intense teacher and the clock-watcher are indistinguishable, the productive and non-productive scholars are paired, and qualitative distinctions are obliterated. Fixity and uniformity (highly desirable in routine matters) are administrative conveniences and as a rule antagonistic to individuality, initiative, and diversity.

(e) It is generally agreed that education should be a continuous and progressive process throughout the whole of life. Our system is partly responsible for the cessation of study beyond the college level, and for the failure of our students to sense the educative process as continuous, either within or beyond organized education. While life itself is a continuously unfolding process without discernible steps or stages, our educational system presents rigid divisions: (a) Elementary School of six or eight sharp steps, (b) Junior High School of two or three parts, (c) Senior High School, (d) Junior Col-



lege, (e) Senior College, (f) Graduate School. So insistently has our thinking gone into organization, weights and measures that students think in terms of classification, hours, credits, and bookkeeping rather than subject matter. Thus it happens that a student passing from the Elementary School to the Junior High School, to the Senior High School, to college develops a definite attitude of "finis" with respect to each subdivision. He enters adult life with no more "steps to conquer."

Now and again there are to be found adults, outside the professions, who maintain an alert interest in some one or several fields of human knowledge. Not infrequently such adults have escaped the formalization of organized education. Their sense of continuity remains uninterrupted, and the world of reality, as a consequence, is perceived as an orderly unfoldment of organic processes. They have escaped educational stratification incident to the machinery of organized education.

As illustrative of discontinuity in our thinking, it may be mentioned that one of our larger universities proposes to organize the Senior College on the basis of concentration of subject matter, individual student responsibility, and where the method of instruction will involve reflective and interpretative thinking. If there has been little or no thinking or responsibility in the preceding ontogenetic history of the student, there is very little likelihood of its occurrence in the passage from the Sophomore to the Junior year. The dangerous implication resident in such a proposal is that the student up to his entrance to the Senior College has been living in Flatlands. Improvement in thinking is a direct product of improved teaching. The solution is to be found in a study of the recitative process and not essentially in organization, as the mechanically minded would have it.

#### RESIGNATION OF DR. BUCKINGHAM

The resignation of Dr. B. R. Buckingham is recorded with extreme regret. The nation-wide recognition of our Bureau of Educational Research is a product of tireless energy and unusual wisdom on his part. Under the direction of Dr. Buckingham, the Bureau has served the varied educational interests of Ohio in a manner which will long be remembered as an achievement of great merit.

The service of the Bureau under Dr. Buckingham's leadership is noteworthy in that major and minor public-school problems were clearly differentiated, the relevant and irrelevant public-school questions were properly evaluated; in fact, the Bureau has at all times proceeded with a discernment of the public-school needs quite beyond what might ordinarily be expected. It was indeed fortunate, not only for the public schools of the Commonwealth of Ohio, but for the public schools generally, that Dr. Buckingham became the first director of the Bureau. The wisdom shown in the selection of the personnel of the Bureau is fine testimony to his administrative ability. He has had, therefore, at his command an expert personnel competent to execute and to put into effect the wider reaches of his program.

Acknowledgment is also made to the central administrative office where support and appreciation of the splendid services of the Bureau have been consistently recognized. The resignation of Dr. Buckingham is therefore recorded with sincere regret and with a keen sense of loss to the University and to the public-school interests of the State.

I am happy to record that Dr. W. W. Charters, nationally known edu-

cator, has been elected to succeed as Director of the Bureau. Dr. Charters' record of achievement is so well known both within and without the State of Ohio as to preclude the necessity of prophesying the continued success of the Bureau and maintenance of existing standards. The election of Dr. Charters is therefore recorded with as much pleasure as the resignation of Dr. Buckingham is accepted with regret.

#### ADULT EDUCATION

The movement in adult education is relatively new in this country but well established in Europe, especially in England where it has reached its highest development. The movement is not limited to those who have been denied the benefits of higher education. College graduates as a rule regard their education as completed upon attainment of a degree. The responsibility lies partly with the colleges. A few years of social experience disabuse many graduates of the final character of a college education. Personal responsibility and the awareness of limitations create a strong desire for further training. The field of adult education is therefore inclusive of those who have and those who have not attended college. The social value of extending educational opportunities to our adult population is obvious. The addition of Dr. Jessie A. Charters is a beginning in the direction of adult education. Cooperative arrangements are going forward with the State Department of Public Education, Parent-Teacher Associations, and other organizations interested in the development of children from the standpoint of the home.

#### COMMERCIAL AND VOCATIONAL EDUCATION

Industrial Arts, Vocational, and Commercial Education are organically related. They go together. Neither is complete without the others.

The history of Commercial and Vocational Education on this campus is not altogether a happy one. The field of Commercial Education represents a large and important area of public school service. A statistical investigation made by Mr. Runkle several years ago shows that one-third of the courses that are offered in the Ohio high schools are courses in Commercial Education. This represents, perhaps, a larger if not more important fraction of teaching in the secondary schools than any other one cognate group of subjects. In recommending a program for the development of commercial teachers, it is clearly evident that a large area and not a limited, restricted area is to be served. A curriculum for the training of commercial teachers has been approved and has been announced in the offerings of the College. No provisions, however, have been made for carrying the curriculum into effect.

The State Department has, from time to time, called attention to the State's responsibility in providing properly trained teachers for commercial courses. Thus far, the public schools have been dependant upon private business colleges whose interest in teacher training is a side issue. This condition is comparable to an outgrown condition which previously prevailed in the preparation of students for law and medicine. The State Department cannot raise the standards of preparation of commercial teachers when State teacher-training agencies fail to provide for such training. With a minimum of expenditure our program for the training of commercial teachers would be made effective, since such program naturally and normally belongs to the Department of Industrial Arts. The organization of a new department would be unnecessary. In view of the cognate relationships of the three lines of work



referred to, in view of the existence of the Department of Industrial Arts, and in view of the scattered condition of both Vocational and Commercial Education, it would seem appropriate that unification should be brought about in this entire area of service.

#### BUREAU OF EDUCATIONAL RESEARCH

*Director, BURDETTE R. BUCKINGHAM*

The Bureau of Educational Research at the Ohio State University, founded in 1921, has become, according to Commissioner Frank P. Graves, "the most important post of its kind in the country."

It was established in accordance with an act of the 1915 legislature requiring the organization at each of the state teacher-training institutions of a "Bureau of Tests and Efficiency." By 1921, however, this legislative term seemed out of line with progressive thought, and the title "Bureau of Educational Research" seemed more appropriate.

The contacts of the Bureau with the schools of the state during the past seven years have been numerous, varied, and continuous. Almost immediately after the establishment of the Bureau a periodical was created, the *Educational Research Bulletin*. This bulletin is now in its seventh volume. Every two weeks throughout the school year about five thousand of these bulletins are mailed to the executives and teachers of Ohio. Upon special request, the Bulletin is likewise sent to certain school centers outside of Ohio. In fact, about twelve hundred copies go to superintendents and principals in other states while twenty-three foreign countries are represented on the mailing list.

But what we are most interested in is the relationship of the Bureau to educational thought in the state. Year after year Dr. Buckingham, Dr. Ashbaugh, and Dr. Stevenson when he was alive, went up and down the state attempting to carry the message of our research bureau. More recently Dr. Holy and Dr. Anderson have joined in this effort. The fact that there are more bureaus of research in Ohio than in any other state indicates in some degree the attention which the doctrine preached by the men of the Bureau has secured. We venture to think that in many quarters a more penetrating thought about educational processes and products has been the result of such leadership as the Bureau has furnished. We believe that because of this leadership policies have been decided in scores of communities less on the basis of prejudices and more on the basis of known data. Each year, for example, a number of Boards of Education, faced with the need of greater revenues, appeal to the Bureau to assist them in placing before their communities the worth of education as a social enterprise. The Bureau likewise steps in to help in selecting building sites, in planning schoolhouses, and in laying out building programs. This year the larger communities which have appealed to the Bureau for this sort of survey work were Lancaster, Marion, Middletown, Ada, Kent, and Fremont.

The survey work of the members of the Bureau staff goes quite beyond the boundaries of the state. Dr. Holy was requested last October to join the staff which is surveying the educational system of West Virginia. With the permission of the Dean of the College, Dr. Holy complied with this request and had charge of the matter of buildings and equipment. His colleagues on the survey were among the best known educational men in the country—Drs. Paul V. West, Charles H. Judd, and George A. Works. As a further indication of the reputation of the Bureau for survey work, one may likewise call attention to the fact that Dr. Frank P. Graves, Commissioner of Education of New York State, lately requested the services of Dr. Ashbaugh in a survey of Cornell University. Arrangement was made to permit Dr. Ashbaugh to fill this assignment.

But by no means all or even perhaps a small part of the educational contact of the Bureau with the schools of the state has been established through survey work. In fact, survey work is only one of the formal aspects of a much more pervasive influence. The Bureau staff by its teaching, by its extremely diversified correspondence, by its work on committees, by its conferences both in Columbus and elsewhere, by its addresses, and by its publications has exerted a constant influence. Students have come to the University for the express purpose of working in contact with the Bureau and of working under some member of the Bureau staff. These students have gone out to various important posts and have carried with them the spirit of investigation.

One division of the Bureau exists especially for the purpose of rendering service. This is the Reference Division. Here is the heart of the Bureau so far as information is concerned. The material collected by this division during the current year alone has amounted to 7,620 pieces—i.e., books, periodicals, bulletins, catalogues, et cetera. It is a remarkable commentary upon the estimate which publishers and other issuing agencies place upon our Reference Division that this year as in the past they have furnished nearly all such material gratis. Of course,

these publishers are not actually giving away their books and periodicals; and certainly they would not continue to do so year after year if they were not receiving a *quid pro quo*. The Reference Division displays their material bringing it to the attention of faculty members, students, and visiting school people. The Editorial Division gives the books and magazine articles as well as the bulletins, courses of study, and other separate publications, considerable publicity through the medium of the *Journal of Educational Research* and the *Educational Research Bulletin*. The Educational Conference includes a book exhibit as one of its main features, and at this exhibit the publishers find their wares effectively displayed under the direction of people who are eager to point out their merits to the many visitors who attend the exhibit. Finally, through the medium of bibliographies formulated on hundreds of different questions, these same books and periodicals are brought to the attention of the educational public.

#### EDITORIAL DIVISION

The Editorial Division has likewise done a great deal to bring the Bureau to the attention of educational people. The following are the most important of the published materials which have been edited in this office: eighteen issues of the *Educational Research Bulletin*; ten issues of the *Journal of Educational Research*; the Proceedings of the Seventh Ohio State Educational Conference; two books, one entitled *Organized Research in Education* by H. B. Chapman and the other entitled *Attendance at Kindergarten and Progress in the Primary Grades* by Josephine MacLatchy.

#### APPOINTMENTS DIVISION

The appointments work now takes on a professional tone. The forms and procedures are such as to compare favorably with those of any other institution. Complete records have been installed to show the qualifications of each candidate, the type of position for which he is qualified, the kind of calls received from superintendents and Boards of Education, the distribution of such calls and the number and percentage of placements in each field of service. A continuous study of the supply of trained teachers in relation to the demand for them is now being maintained by the Appointments Division.

Office routine has likewise been studied in an attempt to secure the most effective service. Forms have been worked out to prevent unnecessary correspondence on routine matters, while much of the clerical work incident to the registering of a candidate is cared for by the candidate himself.

This year for the first time definite publicity of the work of the Appointments Division has been put into effect. Printed notices calling attention to the service have been sent to the administrative officers of all the high schools of the state. Similar notices have been sent to every university and college in the United States. Suggestions have likewise been made to graduate students in education and psychology as to their enrollment with the Appointments Division. Deans and heads of departments in the University have likewise been reminded of the service of the division. Finally, occasional notices in the *Official Daily Bulletin* and in the *Ohio State Lantern* have also called attention to this office.

During the winter quarter the head of the Division of Appointments acted as high-school supervisor for the State Department of Education, inspecting thirty school systems located in nine counties of the north and central parts of the state. This gave an excellent opportunity for contacts and for getting first-hand information of the actual school situations in Ohio.

#### PROJECTS OF THE BUREAU

The dividing line between research work and service cannot always be drawn with precision. The various services which the Bureau has put through have some elements of research in them. The same is true of the job analysis which has been going forward in the Appointments Division and which has eventuated in the setting up of sets of forms and of lines of procedure which are intended to enable the Division to place more teachers in positions better suited to their abilities.

There are, however, certain specific undertakings which have engaged the attention of various persons in the Bureau. After four or five years of study and effort our library-educational project has been brought to completion. The result is the "List of Educational Subject Headings" which the University Press brought out this spring in a splendid volume. Miss Voegelien was the one in charge of making up this list and the sterling character of her work is evinced in the flattering reviews and book notices which have appeared concerning it. Dr. J. I. Wyer, one of the foremost authorities in the library procedure, has this to say:<sup>1</sup> "Miss Voegelien's training and experience in both education and librarianship assure one of the excellence of this laborious, meticulous, and exceedingly useful piece of work."

<sup>1</sup> *Journal of Educational Research*, June, 1928.



Other projects are:

- (1) *Attendance at Kindergarten and Progress in Primary Grades.*
- (2) *Teacher Personnel Problems.*
- (3) *Curriculum Offerings in the High Schools of Ohio.*
- (4) *Junior and Senior High School English.*
- (5) *The Effectiveness of the Radio as a Means of Instruction.*

Somewhat lengthy questionnaires were prepared and certain studies in that field were gathered, but nothing further was done.

- (6) *For What is the Teacher Paid?*
- (7) *Ohio's Support of Higher Education.*

Ohio's ability to support higher education was measured by population and economic resources.

- (8) *Pennsylvania's Support of Higher Education.*
- (9) *Higher Education in the South.*
- (10) *The Senior High-School Principal and His Greatest Problems.*
- (11) *College and University Faculties.*

This study, which is partially completed, will consider the training, appointment, and salary of faculties of colleges.

- (12) *Arithmetic Researches.*

## DEPARTMENT OF FINE ARTS

Chairman, JAMES R. HOPKINS

The program of the Department of Fine Arts lies in a development of the practical application of the principles of Art. It operates in this highly specialized capacity in response to a definite demand for applied instruction, and the fact that the enrollment has more than doubled in the last six years may be taken as evidence that our conception of the function of a department of Fine Arts meets the expectations of a large portion of the citizens of the State.

The inclusion of the work in Landscape Architecture has met with wide approval, and the recognition of its close relationship to the departmental program has given an impetus to both instructors and students. A new curriculum in Ceramic Art was inaugurated this year in response to the request of the Ceramic industries. These industries have shown their interest in this curriculum and their faith in its possibilities by donating to the University over five hundred examples of ceramic ware for use in class work.

In the field of research, instructors and advanced students have used the University facilities to full advantage. Especial mention should be made of a mound builder reconstructed by Mr. Frey for the Museum of the State Historical and Archaeological Society. Ruth Van Zandt, a graduate student, has completed a large decoration for the College of Education Building which will add greatly to the distinction of this building and to the art interest of the University. Mr. Fanning has completed an *Outline of the History of Fine Arts* which is being published by the University Press and which will be ready for use in his class next year.

The Department has maintained continuous exhibitions of paintings and drawings in the Mantel Room of the Library and in Hayes Hall. The interest in these exhibitions indicates the importance of continuing them and the necessity of some better space in which to hold them. This phase of the activities of the Department, which is distinctly extra-curricular, is a most potent force in spreading a general knowledge of Art and furnishes a cultural opportunity essential to the well-educated student.

The teacher-training curriculum is supplying teachers for public schools and colleges. It is significant that we are unable to fill the requests for advanced instruction—a fact which would indicate that our teaching staff should be increased so that the offerings in advanced courses may be extended.

In general, further development of the departmental program depends entirely upon whether or not we are given sufficient instruction and sufficient floor space to accommodate the enrollment. It should be noted that both are hopelessly inadequate to cope with the demand for courses and that the quality of teaching is thus imperiled.

## OHIO STATE EDUCATIONAL CONFERENCE

### REGISTRATION

Table I presents the figures for the total registration for the Conferences for the past six years. It appears on the following page.

It will be noted from this table that the 1928 registration was 4,496, showing an increase

of 333 or 8 per cent over that of 1927. It is difficult to say just what proportion of those in attendance registered. Certainly a considerable number, particularly those who attend the General Sessions, do not fill out registration cards. Although efforts were made to secure a complete registration for the sectional meetings it was well nigh impossible to accomplish that due to the continual shifting from one session to another. In order to show more graphically the growth of the Conference as indicated by the registration figures, Figure 1 based on the data given in Table I has been prepared and is presented.

TABLE I  
TOTAL REGISTRATION

YEAR	COLUMBUS	OUTSIDE COLUMBUS	TOTAL
1923.....	1,333	1,327	2,660
1924.....	1,438	1,419	2,857
1925.....	1,961	1,760	3,721
1926.....	1,532	1,940*	3,472*
1927.....	1,839	2,324	4,163
1928.....	1,833	2,663	4,496

\* Estimated on basis of registration in certain sections as compared with total in previous years.

A COMPARISON OF THE TOTAL CONFERENCE REGISTRATION  
FOR THE PERIOD 1923-1928

Year	Number	
1923	2,660	<input type="text"/>
1924	2,857	<input type="text"/>
1925	3,721	<input type="text"/>
1926	3,472	<input type="text"/>
1927	4,163	<input type="text"/>
1928	4,496	<input type="text"/>

DEPARTMENT OF HISTORY OF EDUCATION

Chairman, L. F. ANDERSON

Among the innovations that have been introduced during the year is that of having each member of the staff participate in the activities of the seminary in the history of education. To this end, and to make the seminary accessible to certain students who are engaged in teaching outside of the University, its meetings have been held at from 7 to 9 in the evening. The plan seems to have proven beneficial both to students and instructors.

Members of the staff have long been convinced that young men and women preparing for any given profession would be likely to find guidance and inspiration in a review of the careers of those who have achieved the highest excellence in that profession. Acting upon this conviction Professor Good a year or so ago announced a series of lectures and conferences on Great Teachers. The enrollment in the courses that have been offered has been distinctly encouraging.



and seems to indicate an appreciation on the part of the student body of the value of work of this kind.

During the past year the Graduate School has made it possible for the Department to bring to the Campus Mr. Peter Manniche, Principal of the International People's College at Elsinore, Denmark. Mr. Manniche's inspiring address on the life and work of Grundtvig, the great Danish writer and educational reformer, will long be remembered by those who heard it, as will also his idealism and his zeal for the cause of international education in the interest of world peace.

The keen interest with which the several members of the staff have pursued their tasks as instructors, students, and investigators during the past year has proven mutually stimulating. Besides being engaged in the collection and organization of fresh material for presentation in the classroom each member of the staff has had in hand the investigation of at least one problem not immediately related to classroom instruction.

#### DEPARTMENT OF PRINCIPLES OF EDUCATION

*Chairman, BOYD H. BODE*

In accordance with the suggestion transmitted to the Department of Principles, the customary statistics relating to the work of the Department are omitted from this report. The year has brought to the Department a number of changes and suggestions for future procedure, which are recorded below:

##### CHANGES IN STAFF AND ORGANIZATION

The outstanding change in staff is the resignation of Dr. Thayer. This resignation represents a loss to the Department and to the University that is not easily overestimated. Dr. Thayer unquestionably ranks with the best men of the country in his special field. His ability and his personality had made an enviable place for him here. Moreover, he was just reaching the point where the cumulative effect of his work was beginning to be felt and where the mature results of his experience and scholarship were finding expression through publication. In personal relations Dr. Thayer left nothing to be desired and the regret within the Department at his departure is unanimous and sincere.

Owing in part to Dr. Thayer's leaving there has been some shifting of work within the Department. It is expected that Dr. Alberty will take over the courses in secondary education previously given by Dr. Thayer. The courses in educational theory which were formerly given by different members of the staff will in the future fall largely to Dr. Hullfish. Since Dr. Landsittel's chief interest is the social sciences, he will in the future give the major part of his time to this field in cooperation with Dr. Pahlow. These two men will look after this work both on the high school and on the elementary level.

The Department considers itself very fortunate in the new appointments that have been made. Mr. Seely, who comes here from the John Burroughs School in St. Louis to take over the work in English, has splendid qualifications for the task. Mr. Seely has had both college and secondary school experience and can point to a fine record. The John Burroughs School was exceedingly reluctant to let him go and offered him substantial inducements to remain. The work in English bulks so large in our program and the right kind of man is so exceedingly hard to find that the appointment of Mr. Seely is cause for self-congratulations. This appointment ends a quest that extends back over several years.

Two appointments have been made in elementary education. One is that of Miss Amy Bronsky, who comes here from the State Normal College of Superior, Wisconsin. She has had wide experience and is highly regarded by the educational leaders of the state. Her special field will be education on the primary level. Miss Laura Zirbes, who is at present connected with Teachers College, Columbia University, will divide her time equally between the University and the State Department of Education. Her special interest and competency lies in the work of the intermediate grades. She has won extensive recognition through her writings and is probably as discerning in her scholarship as any person in elementary education. The Department expects much from her connection with the University.

The feature that is especially gratifying in connection with all these appointments is that these new members have the disposition and the capacity to see education as something more than technique and a matter of scholarly erudition. They are alive to the importance of outlook, to social and human values, without which professional education is so likely to become a source of additional annoyance and irritation.

##### COURSES

In the main there is little to report concerning new courses or the reorganization of courses. It is likely that there will be a certain amount of reorganization in the near future.



in connection with the coming in of men who are specialists in subject-matter fields. Mention should be made, however, of the course in College Teaching, which was given for the first time this year. The course as given dealt mainly with the problem of redefining the conception of liberal education and with the bearing of the outlook or philosophic standpoint thus gained upon the selection of subject matter and teaching matter. This particular problem was stressed because it appears to be central in the college problem of today. As it turned out, a course extending over one quarter only does not give opportunity to do much more than scratch the surface. The advisability of extending this work should be given serious consideration. The college problem is becoming acute, and we seem to have here an opportunity to render a real service. Moreover, college teaching has a direct bearing on our program of training teachers for the public schools. In the past our concern has been mainly with the reformation of educational practice on the public-school level. Little has been done on the college level, which is due in part, of course, to the negative attitude of the college faculties. It is evident, however, that the work of training teachers is much more difficult as long as college teaching is not reconstructed. Our public-school teachers tend to teach as they themselves have been taught, and they do not acquire, under present circumstances, the conception of a liberal education which they ought to have. Even under favorable conditions our professional work cannot go very far in supplying the outlook and habitual attitude which they would gain if the schooling that passes as liberal education were properly organized and conducted. In order to place secondary and elementary education on the right basis it is necessary to attack the problem from the top as well as from the bottom.

Reflections of this sort naturally raise the question what the College of Education should undertake to do about it. As was suggested a moment ago, we could extend our work in this field. This should be done, both in order to work out a program or philosophy of liberal education in more detail and in order to give more extensive consideration and effort to the task of working out tentative outlines for introductory courses in various fields for the purpose of embodying or applying this philosophy to specific subject matter. At present there is too little time for this or for the consideration of how courses given in various departments should be integrated so as to contribute to a common end.

A more ambitious undertaking would be to attempt to convert some of these ideas into practice on our own campus. As a step in this direction the College of Education might try to enter into an arrangement with various departments in other colleges, chiefly the College of Liberal Arts, whereby these departments would offer introductory courses exclusively or mainly for students of the College of Education, these courses to be organized and conducted in accordance with our ideas of the requirements of a liberal education and to count towards the fulfilling of group requirements. The limitation of these courses to students in the College of Education is suggested in order to minimize the hostility that otherwise might be aroused. A more thoroughgoing undertaking would be to organize a complete program for a limited number of students, this program to provide for the organization and integration of the courses included in it and to extend either over two years or over the entire college course. It is not pretended that these ideas are more than embryonic at the present moment. The undertaking would entail much labor and distraction, but it is probable that we shall have to come to something of the sort in the end, unless we are willing to shift our responsibilities to other institutions.

#### PRACTICE TEACHING

In the matter of practice teaching the Department is much encouraged by the appointment of Mr. Seely and by the hope that the supervision of foreign language teaching will be adequately provided for in the course of another year. There is, however, a great deal still to be done. The subject of practice teaching has been reviewed at various times and from various angles in previous reports. For present purposes it will suffice to quote from the report made by the Department under date of May 18, 1928:

"The Department wishes to point out that it is now meeting the minimum student teaching requirement set by the State Department of Education. It feels that in this particular its duty is clear—namely, it must make an immediate and determined effort to meet at least the minimum standard. The standard set by the State Department requires four semester hours of practice teaching. The College at present provides for only five quarter hours or three and a third semester hours of practice teaching. The State Department also requires thirty-six periods of observation. While we can technically meet this requirement, we cannot, under present conditions, meet the spirit of it. We have neither the facilities nor the personnel to direct this observation work so as to keep it from being largely perfunctory and fruitless.

The Department of Principles takes this occasion to record its conviction that the present situation cannot be remedied properly except by a wide departure from our present policy.



Both our supervision of practice teaching and our observation work must remain largely futile unless we can make an arrangement whereby the city teachers who have immediate charge of our practice teachers will cooperate effectively in the work. The plan that the Department of Principles proposes is as follows:

(a) Arrange to have each of certain selected city teachers take charge of three practice teachers. The usual practice at present is to assign only one practice teacher to a city teacher.

(b) Undertake to release each of the teachers selected for this work from one teaching period each day. This would make it necessary to reimburse the Board of Education for employing on additional teacher for every five teachers connected with the work of practice teaching.

(c) Make arrangements whereby some of the city teachers connected with practice teaching would teach demonstration lessons which could be visited and observed by classes from the University, accompanied by their instructor.

(d) Organize the city teachers connected with practice teaching into classes for the study of problem in supervision and for credit towards an advanced degree.

The central feature of this plan is the proposal to reimburse the Board of Education for employing additional teachers. If this arrangement can be made, the other parts of the plan could probably be realized without serious difficulty. As to the cost of the plan the following considerations are submitted: We have at present very close to 300 practice teachers each year, or 150 per quarter, during the autumn and spring quarters. If each of the city teachers selected for this work had charge of three practice teachers, about fifty city teachers would be required. To this number a few more would have to be added in order to provide for demonstration lessons so that the total number would be between fifty and sixty. Since the average schedule of the city teacher calls for five teaching periods daily, it would be necessary, in order to release each of these teachers from one teaching period per day, to provide an additional teacher for every five teachers connected with practice teaching. The average salary is about \$2000; consequently the total amount involved would presumably fall somewhere between \$20,000 and \$25,000 annually.

This is a large amount of money but it is not large as these things go. The supervision of practice teaching is individual work, from the nature of the case, which means that it is relatively expensive. Moreover, the amount suggested above is far below what is being spent at present in other state-supported institutions. Dr. Alberty has informed the Department that for practice facilities Ohio University is now spending \$75,000 annually, and even a school like Bowling Green uses for its facilities \$50,000 each year. It is the unanimous belief of the Department that some such step as this must be taken in order to remedy the present unsatisfactory condition if the student teaching and observations."

## DEPARTMENT OF INDUSTRIAL ARTS EDUCATION

### CURRICULUM

A. *Status*: Curricular revisions for Industrial Arts teacher training are practically complete with the addition for 1928-1929 of two teaching courses, one in Practical Arts for teachers in elementary schools, and one in high-school Industrial Arts.

The department has had numerous testimonials to the professional excellence of its curricular provisions. Thus, the Director of Industrial Arts Education, Central Missouri State Teachers' College, chose this institution for his advanced degree work during the year 1927-1928 after comparing it with others, notably Columbia, and Chicago. Again, following two visits here, Professor R. W. Selvidge, Chairman of the Departments of Industrial Arts and Vocational Education, and also the Department of Mechanical Engineering, Missouri University, Educational Counselor for the Loree Railway Merger, one of the best-known authorities and perhaps the highest paid educator in these lines, has likewise strongly commended the curricular arrangements of this department; he writes that in the case of the Director of Industrial Arts Education, George Peabody College, Nashville, who is considering schools at which to carry on advanced degree work, he (Professor Selvidge) has advised him to come to "State." One other instance may be cited. Dr. Bawden (formerly specialist in Industrial Education, U. S. Bureau of Education, then Associate Superintendent of Schools, Tulsa, and now Managing Editor of the Industrial Education magazine) writes that after a comparative study of university offerings in this field, he is convinced that we have unusually complete and effective provisions here for teacher training, and that he is directing attention of graduate students to it.

B. *Needs*: The department's incompleteness in curricular offerings inheres in

1. The lack of at least one professional course in guidance, now in Vocational Education listed as course 606, "Principles of Vocational Guidance," but manifestly belonging here. Un-

doubtedly the importance now attached to intelligent occupational choice in both secondary and higher education should make at least a course in the fundamentals of guidance a requirement in all teacher training. Also we still need

2. Further elaboration of graduate offerings, in view of demands in prospect here for advanced degrees.

#### DEPARTMENT OF MUSIC

*Chairman, ROYAL D. HUGHES*

During the year 1927-1928 the Department of Music functioned for the first time as a regularly organized department of the University. It was authorized by the Board of Trustees to meet state requirements for the training of special teachers and supervisors of music in the public schools. To initiate the curriculum required by the state a staff of six was allowed by the administration, though with misgivings that the enrollment for the first year would not justify so many appointments. The contrary has proved true. Throughout the year the department has been embarrassed by its inability adequately to take care of an unexpectedly large enrollment even by loading up its six instructors to 50 per cent beyond a maximum load. A demand for music as a major curriculum has been evidenced in no uncertain terms and may be expected to increase rapidly during the next few years. The department is making as satisfactory progress with its curriculum as the inadequacy of its personnel and its limited facilities and equipment permit.

In addition to its teaching duties the department has taken over the supervision of various campus music groups, including the Men's Glee Club, the Girls' Glee Club and the University Orchestra. It has also organized a second men's glee club, a University Chorus and several small instrumental groups. These groups have rendered important university service at the convocations and at other university functions. The quality of their work may be considered satisfactory in view of the short time they have been under supervision and instruction.

The summer offerings have been completely reorganized to make courses correspond to those offered as part of the regular curriculum during the other three quarters. There have been many changes in summer personnel to make this possible.

The immediate needs of the department are as follows:

(1) *Additional personnel* to care for excess teaching loads now existing and to make conservative provision for future increases in enrollment.

(2) *Additional personnel* to provide instruction in branches now considered essential in school music; namely, methods of class instruction in the various applied branches taught in the public schools.

(3) *Opportunities for research.* Many problems interest our staff but cannot be undertaken until teaching loads are sufficiently reduced and certain equipment and stenographic help are available.

(4) *Facilities* for taking over the University Band and other campus groups which have a reasonable claim to instruction and supervision by this department.

(5) *Equipment and Housing.* Certain items of equipment must be provided if the department is to take its place with other schools offering work in this branch. Our quarters are already outgrown and the matter of greater space must be given consideration.

(6) *Extension* of the work of the department to make instruction in music available to any student on the campus instead of limiting it to music majors and minors as at present. This would require several additional instructors and involve the question of fees to be charged for such courses.

(7) *Books.* The department is in dire need of books. We have almost daily requests for graduate work leading toward the master's degree in music but have been obliged to discourage such requests because our reference books are entirely inadequate even for undergraduate work.

It is the desire of this department to become worthy of a place among the best departments of the University; to cooperate with the State Department of Education in raising the standards of school music instruction in Ohio to favorable comparison with the states most progressive in this field; to make the music of the University a source of pride and service. These things cannot be until the suggestions herein become realities.

#### STATEMENT OF CONDITIONS AFFECTING PRACTICE TEACHING

Successful training of supervisors and special teachers of music depends largely upon proper facilities for practice teaching. At the present time the department is greatly handicapped, as the following statements will show:

(1) The only opportunity for practice teaching in music in the University is afforded by



the Columbus schools. The status of music in these schools makes them far from satisfactory for this purpose. In the high schools the success of the music depends upon the excellence of the individual instructor. In the grades there is virtually no supervision. This assertion is made not as a criticism but as a statement of fact.

(2) For practice in high-school teaching the student must be quartered upon some member of a high-school teaching staff who is willing to put up with the trouble and inconvenience. These teachers have not the system of instruction and viewpoint taught the student in his university courses. The person in charge owes nothing to the student or to the University; his help is voluntary and may cease in the middle of a period of teaching; his instruction is indifferent at best and is often detrimental. Good student teaching under such conditions is impossible.

(3) Practice teaching in the elementary schools is even worse. There is only one such school in the city which has a special teacher of music and only one such teacher in this school. Even with the cooperation of this teacher the situation admits of very little practice teaching and that under a school music system the organization and development of which leave much to be desired.

In view of these circumstances it seems proper to suggest here possible improvements for the present and steps for the future which would give adequate facilities for this phase of teacher preparation in music.

(1) High school practice cannot be bettered under present conditions except by the University's providing an entire teaching staff for a Columbus high school and securing permission from the city to take over the entire supervision of music in some city school. If this is possible, which is doubtful, it would be far from satisfactory as a permanent arrangement. There would be little real encouragement to practice teaching carried on in this way and the difficulties of adjustment between city and university ideals insuperable.

Practice teaching in the elementary grades under such an arrangement is more feasible. If the University could supply from its teaching staff critic teachers to care for music in certain grades, a plan for student practice could be evolved which would be fairly satisfactory for a limited period of time.

(2) The only permanent solution of the problem, the only satisfactory one, is for the University to have practice organized and carried on under its own supervision in a University High School and a University Elementary School. Due to conditions already explained, the High School is more important, but the Elementary School is but little less so.

Such an addition to university equipment would not only provide satisfactory practice teaching, it would bring students in contact with the most progressive ideas in music teaching; it would be a laboratory for developing and trying out new ideas of teaching; it would be a model for instruction in this branch in other schools of the state; it would be a source of information and help to teachers in the field and to principals and superintendents; it would render an inestimable service to the public schools and school children of the state in all points touched by music in the curriculum and out of it.

## DEPARTMENT OF PSYCHOLOGY

*Chairman, GEORGE F. ARPS*

### RECENT DEVELOPMENT

#### INSTRUCTION IN ELEMENTARY COURSES

In addition to the methods described in previous reports to increase the value of elementary psychology to freshman and sophomore students, two innovations were tried in the present year.

The instructors in elementary psychology have made use of student criticism systematically secured as one means of improving the quality of their teaching. It was realized that the college teacher seldom secures the frank opinions of his students as to the good and bad features and the general effectiveness of his course. It is also true that neither the teacher nor the supervisor can see the class through the students' eyes. In order to secure frank, detailed, and specific criticism of the course and instructor, students were asked to fill out a rating blank prepared by Mr. A. Lee Henderson of the department. Twenty sets of questions were used, covering such topics as difficulty, interest, amount of material covered, balance of lecture and discussion, conduct of discussion, organization of material, and attitude of instructor. A careful study was made of nearly two thousand returns. The instructors and the supervisor of the elementary course went over the papers in detail, working out the changes in methods that

seemed to be indicated by the ratings as supplemented by all other information in their possession. The following have accrued from this study:

1. We have obtained a relatively frank, concrete, and specific expression of student judgment from a large number of unselected individuals.
2. We have been able to see ourselves through student eyes.
3. We have been helped through discovering many strong and weak points and are in a better position to make changes intelligently.
4. We have been able to compare ourselves with others on important aspects of teaching. This is a powerful incentive to improvement.

#### EDUCATIONAL PSYCHOLOGY PROGRAM

Especially to be stressed is the development of the large program of research regarding problems of higher education initiated some five years ago. A volume of studies in this field was published last summer under the title *Research Adventures in University Teaching*. Of the work now in progress the following four items seem worth mentioning: (a) Mr. Peterson's investigation having to do with the preparation for professional reading in education; (b) A group of studies having to do with factors of background preparation for college work, as Miss Johnson's study of minimal grammatical information needed for college language work and development of tests to cover this information and investigation of the relationship of inadequacy of such preparation to failure in college foreign language study, and Mr. Seaton's elaborate analysis of errors in the mechanics of English composition; (c) Dr. Melvin Rigg's determination of knowledge of mechanics of English composition and knowledge of certain facts of American literature, at the beginning and end of college courses in composition and in literature; (d) The work of Mr. Tomlinson and Mrs. Pressey, aiming at definite evaluation in terms of effect on grades and probation of the Freshman Week program (it is felt that such definite evaluation of new ventures is highly desirable but all too seldom made).

Another departure which seems worth mention is the definite offering of a course (as presented in a seminar course this year) dealing with problems of higher education. The effort of this course is to bring to prospective college teachers and present instructors in the University such experimental data as have thus far been gathered regarding various college and university problems.

During the Winter Quarter the course for probation students was again given. This year there were 34 students. All but 6 of these students were at least temporarily salvaged and are continuing with their university careers.

During the Winter Quarter the students in Psychology 662 re-wrote the textbook in Child Psychology which was originally planned and written in first form by the class from the previous year. This volume is gradually being finished by students and will, when done, be a tribute to what undergraduates can do in the way of original work.

A major service of the Psychological Clinic is to the student body of the University through the Student Consultation Service which Miss Leatherman and Mr. Durea have been conducting under Dr. Goddard's direction. In order to have a large number of cases presenting a variety of problems in the Saturday and Wednesday clinics, it is necessary to render a public service to the community; that is, to schools, social welfare agencies, and parents. The development of the Clinic must continue to take into account the local demand for service. Probably one case a week is from outside Franklin County. Pupils enrolling for the Dalton Plan Demonstration School organized by the College of Education for the Summer Quarter, 1928, have been examined by the Clinic.

In other words, the Department of Psychology can count on the Psychological Clinic for research and instruction only when the service rendered is acceptable in the community and state at large.

#### UNIVERSITY INTELLIGENCE TESTS

The University Intelligence Tests were administered to an increased number of freshmen and undergraduates. A new scoring method has been adopted which makes possible the scoring of a given Question No. 1 on some 20 successive students' papers before the answers on No. 2 are considered. This greatly relieves the eyestrain in scoring, makes inspection of the scoring easier and more certain, and, where long runs of scoring are available, increases the speed considerably. During the five days from the beginning of Freshman Week we were able to score the records of over 2000 freshmen, mimeograph the ratings, and distribute the scores. When it is considered that this involves over one million possible answers to be scored, inspected, and statistically treated, the efficiency of the new method will be appreciated.

A great amount of time during the past year has been given to a very detailed follow-up study through four years of over 2,000 freshmen entering the University in the Autumn Quarter



of 1923. This study, begun last year under the direction of the Central Committee of the Faculty, is unique among researches into college elimination. Unexpectedly small proportions of the students in the several colleges graduate in four years or even ultimately. The extent to which this depends upon arbitrary university rules and procedures, upon our teaching methods, and upon the abilities of the students themselves can be found only by careful and painstaking later researches carried out on a scale that we may be sure of the soundness of our conclusions.

The basic materials for such researches are test scores of various sorts — intelligence, study habits, note-taking, reading, and the like; methods of working up mechanically and with perfect accuracy statistical data of all sorts; and detailed cumulative scholastic records. The committee of the Ohio College Association, referred to below, will attempt next year to devise an electrical machine for scoring the results of tests and examinations and so provide cheaply, quickly and accurately the test scores and measures of ability required. In addition to the calculating machinery now on hand, plans are already under way for the construction of additional special calculating machinery by the departmental mechanic for meeting some of the special statistical needs. We can now square eight place numbers perfectly in fifteen seconds on the calculating machines, but immense quantities of tabulation must go on by obsolete hand methods and at a snail's pace. A bookkeeping machine and access to tabulating machinery are urgent needs.

#### COOPERATION WITH OHIO COLLEGE ASSOCIATION

Marked development of the Ohio College Research program, under the chairmanship of Dr. Toops, has been made during the past year. Fifty thousand intelligence tests have been printed and distributed in a cooperative research program in which practically all Ohio Colleges are cooperating. The Ohio State University Intelligence Test has been adopted for 1928-29 by the State Department of Education as the sole requirement for meeting the state law for admission to teacher-training institutions. It is believed that a gradual progressive betterment of the quality of teacher-training applicants will result from a program based upon the studies thus made possible.

The plan of the Ohio College Association Committee is to seek to integrate the research efforts of the Ohio Colleges on the problems of college entrance. Gradually the pertinent factors are being singled out — intelligence, previous preparation, speed and comprehension in reading, note-taking ability, amount of time studied, the difficulty of courses elected — to mention a few of the more important ones. Just as surely certain other factors are being shown to have little effect.

During the coming year it is planned to complete the several researches now under way, read all the literature in the field, and attempt to summarize for publication the important advances in personal practice of the past decade. As rapidly as the several researches are completed, they are issued as bulletins, some 43 of which have already been distributed, with a half-dozen others ready for early issue. The possible far-reaching effects of such cooperation may be taken soon to cooperate with the secondary schools of the state with a view to the betterment of the preparation of incoming students.

#### DEPARTMENT OF SCHOOL ADMINISTRATION

The report consists of three major parts; namely, enrollment, faculty load, and research and professional activities of the staff.

##### ENROLLMENT

Figure 1 indicates the growth in total enrollment over the period 1921-22 to 1927-28 inclusive. The per cent of increase over the preceding year is shown at the top of each bar. The exact enrollment is shown by the number written in the bars.

Figure 2 shows the total class enrollments for both summer terms from 1921-22 to 1927-28. The summer of 1927 is shown by the last figure. In this as in figure one the per cent of increase over the preceding year is shown at the top of each bar.

Figure 3 shows the enrollment during the academic year for the same period of time. The per cent of increase or decrease over the preceding year is shown as in the two preceding figures.

Figures 1, 2, and 3 show that the Department of School Administration has had a very rapid and steady growth in total class enrollment up to the year 1926-27. The increase for the year 1926-27 (3 per cent) was slight, but the increase for the year 1927-28 over 1926-27 was 39 per cent.

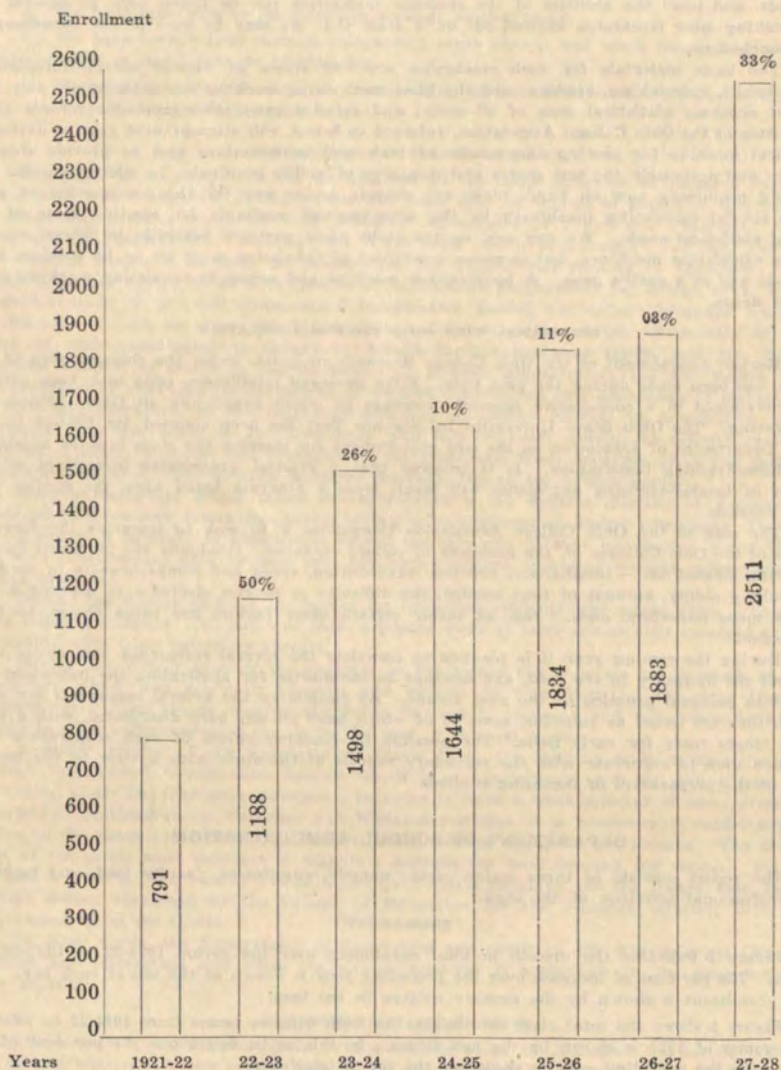


FIG. 1. ENROLLMENT BY YEARS FROM 1921-22 TO 1927-28, PERCENT OF INCREASE OVER PRECEDING YEAR



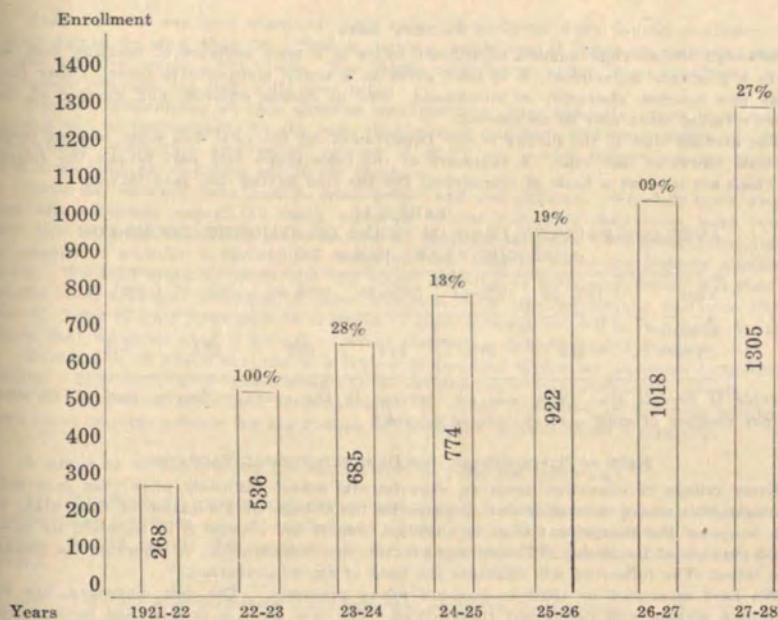


FIG. 2. ENROLLMENT BY YEARS FOR THE SUMMER QUARTER FROM 1921-22 TO 1927-28, PERCENT OF INCREASE OVER PRECEDING YEAR

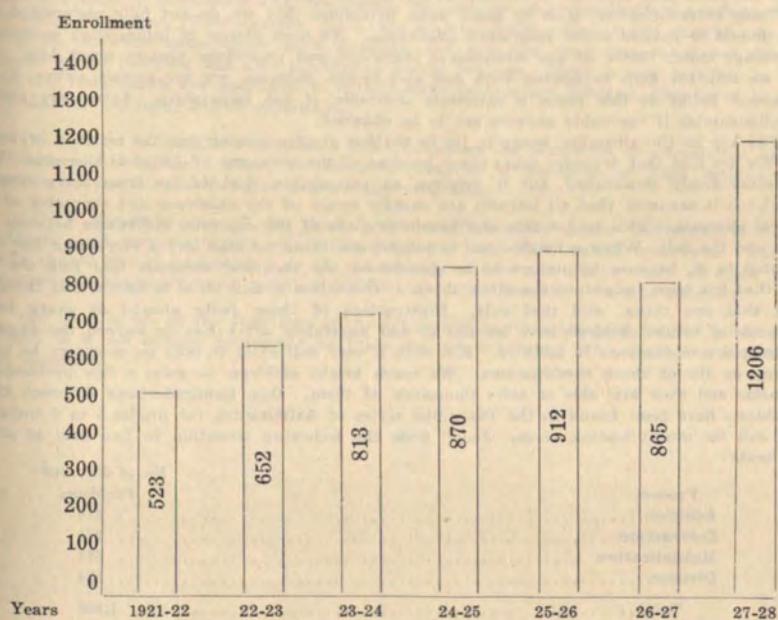


FIG. 3. ENROLLMENT BY YEARS FOR ACADEMIC QUARTERS FROM 1921-22 TO 1927-28, PERCENT OF INCREASE OR DECREASE OVER THE PRECEDING YEAR

## FACULTY LOAD

Although the average number of student hours is a poor measure of teaching load, especially in a graduate department, it at least gives us a useful comparative index. Other factors such as new courses, character of enrollment, type of course entered, and number of these that are directed must also be considered.

The average load of the faculty of the Department for the past five years was set forth in the annual report of last year. A summary of the table given last year reveals the following facts which are used as a basis of comparison for the load during the year 1927-28.

TABLE II  
AVERAGE FACULTY LOAD IN TERMS OF STUDENT HOURS FOR  
ACADEMIC YEARS 1922-23 TO 1927-28.

Year	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28
Student Hours...	255	289	268	309	284	313

Table II reveals that there was an increase in the average faculty load of 29 student hours per member of staff over the preceding year.

## NEED OF EXPERIMENTAL AND DEMONSTRATIONAL FACILITIES

Every college of education needs an experimental school infinitely more than ever before. An experimental school controlled and operated by the College of Education of Ohio State University is one of the things that must be supplied soon if the college is to maintain its present splendid position of leadership. Theory and practice are inseparable. A laboratory is necessary for the latter. The following will illustrate the need of experimentation.

We have measured or tried to measure many processes. The test movement has made at least one notable and permanent contribution. We now have a definite and lasting knowledge of the degree of individual differences. We now know definitely and finally that the single class assignment and the undifferentiated course of study must be replaced by procedures that are more in line with child nature. Assignments and courses of study must be differentiated to suit the needs and abilities of the dull and bright as well as those of the average child.

These differentiations must be based upon principles that we do not fully understand and which should be studied under laboratory conditions. We have plenty of information concerning the average child. Most of our educational literature and procedure centers about him. But when we look for help in dealing with dull and bright children, we are acutely aware of our ignorance. Relief at this point is extremely desirable, if not imperative. Laboratory schools are indispensable if verifiable answers are to be obtained.

The key to the situation seems to lie in further studies concerning the transfer of training. We are told that transfer takes place because of the presence of identical elements. This fact seems firmly established, but it involves an assumption that is far from being true in general. It is assumed that all learners are equally aware of the existence and character of the identical elements. This is not true and herein lies one of the essential differences between the bright and the dull. When a bright child is taught one thing he also learns everything else that is related to it, because by nature he is able to see the identical elements that link the one thing that has been taught to the other things. But when a dull child is taught one thing he knows that one thing, and that only. Illustrations of these facts abound on every hand. Thousands of bright children have learned to add accurately after having learned the so-called 45 principal combinations in addition. But with a very dull child it may be necessary to teach as many as 300 of these combinations. We teach bright children to solve a few problems in arithmetic and they are able to solve thousands of them. One hundred-ninety different kinds of problems have been found in the Thorndike series of Arithmetics for grades 3 to 6 inclusive which call for multiplication alone. Judd\* finds the following situation in four sets of arithmetic texts:

Process	No. of different Problems
Addition .....	410
Subtraction .....	374
Multiplication .....	521
Division .....	594
Total.....	1,899

\* *Psychological Analysis of the Fundamentals of Arithmetic*. Supplementary Educational Monographs, Number 32.



Judd does not say how many of these types of problems were taught explicitly, but the number cannot be more than 50. That is, having taught say 50 kinds of problems, we expect children to solve nearly 1,900 kinds. The bright child learns under these conditions, but it is notoriously true that the dull child does not.

Further illustrations of this situation are available from subjects other than arithmetic, but they will be omitted here in the hope that enough has been said to establish the fact that differentiated instruction and varied courses of study are needed before we can claim to be doing a good job at educating all of our children.

Some day we shall learn how to teach bright and dull children. We shall know just which items are important enough to teach explicitly to the dull. We may even learn something about how to make the dull pupil conscious of identical elements. We shall know just what the amount of transfer is with given material with children whose intelligence quotients are known. We shall probably learn that the direct teaching of certain elements will yield larger transfer than a similar teaching of other elements, thus establishing the existence and character of "lines of least resistance in transfer." Such information will give a basis for the procedures that we sorely need if we are to adapt instruction to individual differences.

Information of which the above is typical is essential to further progress in teaching and learning. Apparently such information can be obtained only in experimental schools.

The Department of School Administration is vitally interested in securing adequate laboratory and training schools for the College of Education of Ohio State University.

A summary of the reasons for our interest includes the following:

- (1) To effectively modify and change practice, it is first necessary to modify and change administrators and their administration and supervision. The administrator occupies the key position. If you unlock this position, he in time unlocks the whole system over which he presides.
- (2) There are approximately 2,400 separate education jurisdictions in Ohio. There are at least 3,000 administrative positions in these jurisdictions. This includes superintendents, assistant and deputy superintendents, supervisors, principals and assistant principals, and all other persons engaged in the administration and supervision of public education in the state. These 3,000 administrators affect the lives of over 1,100,000 public-school pupils. Moreover, the number of pupils is constantly increasing and, therefore, the number of administrative positions is proportionally increasing. Furthermore, there are at least 8,000 school board members in Ohio. Boards of education have under their direction not only the most important and the most technical public business, but also the largest public business. More money is spent in public education, more people are employed in it, and more persons are affected, directly or indirectly by it than by any other public enterprise.
- (3) Due to democratic control and other influences the personnel of educational administration is highly mobile. There is constant changing of positions or high turnover, and, therefore, an enormous shifting of policies and programs.
- (4) It should be one of the chief functions of the Ohio State University to directly, specifically, and very materially affect this great and important public enterprise. The University should take the leadership in the pioneering of new and better ways of doing things. Experimental, laboratory, and training facilities are vital necessities in this program.
- (5) If it is one of the functions of the University to train teachers for the public schools of Ohio, is it not equally important to train the administrators who manage and supervise these teachers?

TABLE IV  
INSTITUTIONS MAINTAINING TRAINING SCHOOLS; GRADES IN TRAINING  
SCHOOLS AND ENROLLMENT.

Name of Institution	Maintains Training School	Grades in School	Enrollment in School
University of			
Arizona .....	No	None	None
Arkansas .....	Yes	1-3-9-12	200
California .....	Yes	7-12	1,340
Iowa .....	Yes	Kg-12	462
Kansas .....	Yes	9-12	69
Maryland .....	No	None	None
Minnesota .....	Yes	9-12	249
Michigan .....	Yes	7-12	225
Missouri .....	Yes	Kg-12	275
New Hampshire .....	No	9-12	None
Nevada .....	No	9-12	None
Ohio (State) .....	No	1-12	None
Oklahoma .....	Yes	7-12	125
Pennsylvania .....	No	None	None
South Dakota .....	Yes	9-12	50
Texas .....	No	None	None
Utah .....	Yes	Kg-9	350
Vermont .....	No	1-12	(2,960) <sup>†</sup>
Virginia .....	Yes	9-12	60
Wisconsin .....	Yes	7-12	354
Wyoming .....	Yes	1-12	250 <sup>a</sup>
(State supported institutions of Ohio)			
Bowling Green State Normal.....	Yes	Kg-6	305
Kent State Normal.....	Yes	Kg-12	475
Miami University .....	Yes	1-12	430
Ohio University .....	Yes	Kg-6*	....
<del>28</del> Ohio State University .....	No	1-12	None <sup>b</sup>
(Three private training schools)			
Teachers College, Columbia University	Yes	1-12	1,291
University of Chicago.....	Yes	1-12	950
George Peabody College for Teachers	Yes	Kg-12	600 <sup>c</sup>

<sup>a</sup> Ligon, M. E. and Crawford, A. B. "The Status of Teacher Training Schools in State Universities, State Normal School and Colleges of the United States," *Kentucky High School Quarterly*, April, 1927, Volume XVIII, Number 2, p. 63.

<sup>b</sup> From Presidents' reports and catalogues.

<sup>c</sup> From Presidents' reports 1926-27.

<sup>†</sup> Refers to city school enrollment.

\* Ohio University offers observation and practice facilities in Grades 7 to 12 in other than the campus school.

#### PREVALENCE OF PRACTICE SCHOOLS AND TYPES OF TRAINING AFFORDED

How generally do state universities and other teacher-training institutions provide practice schools? This is answered, so far as the institutions included in the study are concerned, by Table IV. Table IV shows: (1) That 13 of the 21 state universities, or 62 per cent report training schools. (2) Four of the Ohio institutions, or 80 per cent maintain practice schools; Ohio State University is the single exception of Ohio's tax-supported institutions in the state. (3) Considering the 28 institutions included in this study, 20 or 71.4 per cent, have practice schools. (4) It also shows that 10 of the 20 institutions maintaining practice schools or 50 per cent provide observation and practice-teaching facilities in other than high-school grades. (5) And that 7 of the 20 institutions include kindergarten enrollment.



## ENROLLMENT IN PRACTICE SCHOOLS

(1) The enrollment of the training schools ranges from 1,340 down to 50 children. (2) The average pupil enrollment of state university training schools is 308 plus. (3) The average in state-supported institutions in Ohio is 403. (4) In the three private schools it is 947. (5) If the institutions maintaining training schools are combined, the average enrollment is 342 pupils. However, this figure is more or less meaningless. In a number of the institutions listed above the so-called training school is not actually a training school. It is more of an experimental school than a training school. This is true of Michigan, Iowa, Chicago, etc. If Ohio State University is to establish an experimental school only, the enrollment need not be as large as it should be if the school is to serve as a practice school also.

The comparative recency of the establishment of training schools is shown in column one, Table V. Column two shows the range in tuition charged. The type of training afforded is shown in column three.

## WHEN TRAINING SCHOOLS WERE ESTABLISHED

That training schools have been established in the last quarter century is shown by the fact that 18 of the 20 institutions having practice schools have established them since 1902. This is at least indicative of the recognition in recent years of the importance of practice teaching, observation, and demonstration. The fact that some of the schools studied, and hundreds of normal schools, which established training schools in the period preceding 1900, still maintain them seems to indicate an increasing recognition of the theory that the state is responsible for all phases of teacher training and that practice schools are universally recognized as absolutely essential to the program.

On the basis of the preceding facts, the Department of School Administration recommends that efforts be made to secure for the College of Education at Ohio State two training schools described as follows:

(a) An elementary training school of approximately 600 pupils. We recommend that an effort be made to secure this school by contracting with the Columbus Board of Education for the use by the University of the Indianola elementary school as a training school attached to the University.

(b) A junior-senior high school with a capacity of approximately 1,200 pupils.

## ELEMENTARY SCHOOL

As a tentative proposal we suggest that the University offer to pay the cost of staffing the Indianola elementary school (kindergarten—grades 1-6), in exchange for its use as a training school. We estimate that this would require an ultimate expenditure of approximately \$40,000.

This is based on an estimate of 20 teachers at a salary of \$2,000 each. With a pupil load of 30 per teacher this would mean 600 children. This would provide us with a kindergarten and pre-school of about 60 pupils; and with 3 groups of 30 pupils each in grades 1 to 6 inclusive.

## SUMMARY

Kindergarten .....	60
First grade .....	90
Second grade .....	90
Third grade .....	90
Fourth grade .....	90
Fifth grade .....	90
Sixth Grade .....	90
Total.....	600

This would provide adequate facilities for elementary training purposes for the next ten years. The University of Michigan was authorized by the last legislature to expend \$1,100,000 for an elementary school in connection with the college of education of that institution. This appropriation did not provide for annual maintenance.

Ohio State, by using Indianola, would save the capital outlay that would otherwise be necessary if we were to attempt to equal Michigan's program.

In a recent letter from G. E. Roubush, Assistant Superintendent of Schools, the per capita instruction costs for Columbus in grades 1 to 6 was \$61.20. On the basis of 600 elementary pupils, the cost of staffing the Indianola school would be \$36,720.00.

## A JUNIOR-SENIOR HIGH SCHOOL

Due to the popularization of the junior high school and the upward extension of public education, the demand for junior and senior high-school teachers has grown rapidly. For example, there are nearly 1,400 high schools in Ohio. There were 88 additional high schools last year, 1927-28, requiring the services of over 900 additional high-school teachers in Ohio

alone. This particular field of public education is receiving considerable attention by educational and psychological experts. Training for high-school teaching requires at least four years of college preparation. To achieve the most satisfactory results at least one year of graduate study is essential. Ohio State's chief field of service in teacher training is in secondary education. In view of this fact, the enrollment in the junior-senior high-school training school should number approximately 1,200 pupils. Such an enrollment, in addition to affording observation and experimental facilities, would enable approximately 240 students to receive practice teaching in the campus school during the year. This is based upon the standards set forth by the American Association of Teachers' Colleges (1926).<sup>1</sup> It is also assumed that only 900 of the 1,200 junior and senior high-school pupils would be available for this purpose.

This would mean a campus school built and equipped to house approximately 1,200 students from grades seven to twelve. An enrollment of 1,200 would permit an adequate number of pupils for experimental and demonstration purposes and also offer practice-teaching facilities to approximately 240 students per year. This means that a school with the 1,200 enrollment would not afford all the practice facilities used to care for the present and future number of teachers in training. By 1934 we estimate that there will be at least 477 practice teachers to be accommodated annually.

An approximation may be reached in another manner. Standards of the American Association of Teacher's Colleges (1926), require: (1) A minimum of 90 hours of supervised teaching by every graduate of a teacher's college; (2) That at least two-fifths of the teaching in the training school should be done by the regular teachers of the training school, or by members of the faculty of the college of education. These standards employed in the formula given in the Carnegie Report for determining the minimal enrollment which a training school should have to afford the proper number of pupils for student teaching indicate that an enrollment of 893

would be required. The formula is  $N = 1.30 \frac{(15 s c m \frac{5}{s})}{t}$

Where  $N$  = minimal training school enrollment.

$s$  = number of students to whom student teaching must be available each year (the number who graduate).

$c$  = the number of recitation units during which each student will be in charge of a section each week; for example, 5, 10, etc.

$m$  = proportion of total year student teaching is required.

$t$  = number of recitation units each week, (30 if the day consist of 6 periods).<sup>1</sup>

Substituting in the formula the data relevant to the College of Education of Ohio State, we have: (1933-34)

$$N = 1.30 \frac{(15 \times 477 \times 5 \times .5)}{(30)} \times \frac{5}{3}$$

$N = 1,291$  the minimal number of students.

This makes no provision for observation, demonstration, and experimentation. If proper provisions are made for these essentials, the number would be much greater than 1,200 pupils. Chicago University has in its training school an enrollment of about 1,000 pupils. The superintendent of this school reports that this number is used largely for experimentation and research. The enrollment of the College of Education of the University of Chicago for 1926-27 was 987, compared with 1,648 in the College of Education, Ohio State University. If Ohio State University is to furnish similar facilities for research and experimentation plus practice facilities the practice school must house more than 1,200 students. The solution to this problem lies in permitting some of the stronger student teachers to do practice teaching in certain city schools. By an arrangement of this kind 1,200 students in the practice school would supply the needs for experimentation, research, and a part of the practice teaching. With these facilities it would be possible to organize classes in special education which would make possible experimentation of value to school men of the state.

#### SCHOOL ADMINISTRATION

A campus school of the character and size indicated would permit the department to vitalize its work in at least four ways: (1) Use of the school as an illustration of the best school architecture involving (a) construction, (b) lighting, heating, ventilating, and sanitation, (c) economy of plant, and (d) adaptation of plant. (2) Such a plant would permit graduate students to get valuable factual information and practice in courses in buildings and equipment.

<sup>1</sup> 1926 Yearbook, Supervisors of Student Teaching, pp. 11-12.

<sup>1</sup> Carnegie Bulletin, No. 14 (1920), pp. 194-95.



It would afford school officials of the state an opportunity to secure very definite help relative to buildings and grounds, which now is given largely on the theory basis. (3) The best administrative procedure could be illustrated. This would involve: (a) equalizing teacher loads, (b) making schedules, (c) preparation of daily programs, (d) allied activity program organization. Training in each of these phases could be given graduate students which would be of great value in public school administration. (4) Technique in keeping records, making reports, directing school assemblies, administering tests, making budgets, determining costs, and aiding in administering the school in other ways.

## COLLEGE OF ENGINEERING

Dean, E. A. HITCHCOCK

This annual report of the College of Engineering is composed largely of the several reports of the Department Chairmen, relating to their respective departments. In some cases, certain paragraphs of the reports which seemed out of order, as well as some exhibits, have been eliminated. Otherwise, these reports are included as presented. In the make-up of these departmental reports, the suggestions offered by the President in his letter of May 31, 1928, addressed to all Deans, have been followed. Therefore, it will be noted that the comments relating to "new undertakings and methods", "developments and activities", "reorganization of the curricula or staff", "lectures from outside the University", "important educational methods", "organization and community contacts", "the spirit relative to educational advancement or research", etc., have been set forth by the different departments.

The past year was a most satisfactory one for the College of Engineering. The total registration was slightly in excess of last year, and the number receiving degrees was nearly 20 per cent above that of 1926-1927. In the direction of growth, this College seemed to be running in parallel with other mid-western institutions. Its numerical position during the past year, based on registration in four-year courses, is fourth among one hundred and forty-eight schools of the United States. Purdue University, Massachusetts Institute of Technology and the University of Illinois leading in the order mentioned. During the past two years a very marked student increase has taken place in the departments of Architecture and Industrial Engineering.

Members of the teaching staff continue their active interest in all matters educational, particularly in the activities of the Society for the Promotion of Engineering Education. The Ohio Section of this Society held its annual meeting in May, at the Case School of Applied Science, at which five Ohio institutions were represented. This College was represented by 38 per cent of those in attendance, Case School by 36 per cent. The annual meeting of the Society, held in June, at the University of North Carolina, was attended by a total of 360 persons, representing 82 engineering institutions. Ohio State University had the largest representation, excepting the University of North Carolina. The Society has slated its 1929 meeting to be held at the Ohio State University, where, because of the central location and the importance of the program to be presented, it is expected that the attendance will be in excess of that of any previous meeting since the Society's organization in 1893.

While it is extremely difficult for the Dean to establish contact with many of the 1500 students, this has been done to a large extent through meeting with student organizations, that is, honorary fraternities, Ohio State Engineers' Staff, Engineers' Council—and his work with the freshmen. This weekly contact with the first year men has proven very helpful to them. It also provides a way through questionnaires for obtaining valuable information for those who are working on educational problems. For example, the Dean, to satisfy himself as to the value of a criticism which had been made of the work in the College of Engineering, to the effect that the work was too heavy, submitted to a freshman group of 408 students, a question regarding this criticism,



and he found that 94 per cent of this group did not want the curriculum requirements lessened. Other valuable information has been obtained in the same way. Facts are more valuable than opinions.

Our advanced students, through the leadership of the Engineers' Council, carried through most successfully the annual Round-Up and Engineers' Day; two activities which are leading factors in the binding together of the several departments of the College, and which are now fixed traditions of the College. The first event was held in the engineering atmosphere of the Engineering Experiment Station, certain members of the faculty taking an important part. On Engineer's Day, an unusual event occurred, and that was the landing for the first time of a Waco aeroplane in the oval of the campus.

The usual series of lectures under the title of "Broaden Out Engineers" was as follows:

Professor K. W. Stinson, "Modern Fire Engines".

Colonel H. O. Boyden, "Engineering Materials".

Hon. Edward P. Warner, Assistant Secretary of Navy for Aeronautics, "Aeronautics".

Edwin B. Neil, "Technique of Business Research".

W. H. Eisenmann, "The Importance of Heat Treating".

President G. W. Rightmire, "A Talk to the Engineers".

It has been noted that during the past year the attendance at these lectures has greatly decreased. This shrinkage is largely due to the many student activities and other lectures given under the auspices of the student organizations. It has therefore been decided to reduce the series to three talks, given by outstanding engineers. There is a feeling that our students are lectured too much.

The most outstanding event of the year, bearing upon organization, was the creation by the Board of Trustees of a School of Mineral Industries, which includes the departments of Ceramics, Metallurgy, Mine Engineering and Mineralogy. This coordination will result in a combination of courses, will bring about a greater unity of effort on the part of the staff members and a greater unity of interest on the part of those students who are in these departments, and will also present a stronger appeal to many students to enter the fields represented by this school—fields in which the demands for technically trained men are far in excess of the supply.

The greatest need in the College is probably that which is common to all departments, that is, larger appropriations for equipment. It is quite embarrassing when chairmen of the departments submit lists showing in detail the equipment greatly needed for their work, and the amount finally set aside for the College is about 16 per cent of the total needs. Sixty thousand dollars per year would be a very reasonable amount, and would be used efficiently. The Departments of Chemistry and Physics alone would require one-third of this amount. It should not be necessary for members of the staff to solicit funds for equipment from private citizens, in order to pursue lines of research in which they are greatly interested.

The next greatest pressing need and most deserving on account of its age, is the completion of Brown Hall. This building was too small when built twenty-five years ago. The departments of Architecture, Civil Engineering and Engineering Drawing are being throttled in their developments, and the College Administrative Offices in Lord Hall are occupying space greatly needed by the Ceramic department. The original plans of Brown Hall called for the



College Administrative offices in that building, and four years ago when the completion of that building was seriously contemplated, plans were so drawn. It is earnestly hoped that at least this part of the physical plant of the College will be completed during the next biennium.

#### ARCHITECTURE AND ARCHITECTURAL ENGINEERING

The Department of Architecture during the year 1927-28 has experienced a somewhat unsatisfactory year owing to limitations of space in Brown Hall and to inadequate numbers in its teaching force. For these reasons, no new undertakings of importance were instituted. The Department feels, however, that material progress has been made both in its teaching and in the standards of student accomplishment.

The quite generally accepted Beaux Arts Method of teaching design has been followed and though many of the problems issued by the Beaux Arts Society in New York have been used, very few of the student projects have been sent to New York for judgment. To do so would require of the student the payment of the fee assessed by the Society. This method places all students in design on a competitive basis. They have been divided into seven *ateliers* under the leadership of a senior student who aids in the criticism of junior and sophomore problems. The underclassman, in turn, aids the senior in the routine work of the presentation of his much more advanced problem. The system, therefore, reproduces in the classroom much of the method of office practice. The results are judged by a jury consisting of all members of the instruction staff. This contact between upper and lower classmen and the rivalry between the senior leaders and the *ateliers* has made for a most excellent *esprit de corps* in the department. Almost nightly do these students in design have to be driven out by the watchman at closing time, and their constant request is to have the drafting rooms open until midnight.

During the year, in an effort to reduce the teaching load by abandoning three courses in the history of architecture previously given to students in Architectural Engineering, the Department has had an unsatisfactory result. The new plan proposes that this group of students schedule the first three courses of a five-course group given in the course in Architecture. Five courses then are now given in place of the eight older courses, which were more exactly fitted to the needs of the two groups of students concerned. The great increase in numbers of sophomore students made it necessary to give the first of these courses in two sections and this should have been done in the case of the two following courses, but limitations in the teaching staff made this impossible. The result of the change has been unsatisfactory and the Department hopes to return to the old plan as soon as increased staff makes it possible.

The addition of Mr. Paul L. Wood as an instructor on a part time basis has been of very great help to the Department. Mr. Wood has proven himself a most competent teacher and it is with deep regret on the part of the department that he leaves at the end of the year to take up advanced study at Yale.

Contact has been maintained with the Association of Collegiate Schools of Architecture in which the University holds membership. The American Institute of Architects recognizes only such schools as belong to this Association. The Chairman attended the annual meeting of the Association in St. Louis, where two days were spent in the discussion of the problems of archi-



tectural education with the heads of twenty odd recognized schools of Architecture.

Contact has been maintained with the American Academy in Rome, through the presence there of a graduate in the person of Mr. Badgley of the Class of 1924. The Department regrets that the University does not hold membership in the Academy, as it offers most exceptional opportunities for advanced study to the winners of its three year scholarships, two of which have now been held by graduates of the Department.

Most satisfactory of such contacts has been the relationship between the Department and the Foundation for Architecture and Landscape Architecture at Lake Forest, Illinois. Annually four graduates of this University, two in Architecture and two in Landscape Architecture, are invited to accept scholarships for an intensive and elaborate competitive study in these fields with similar groups from the Universities of Michigan, Illinois and Iowa State. The prize offered is a year's travel scholarship in Europe. It is with pride that the Department reports that this year again her graduate, Mr. George Merkel, has won this honor.

Nearly all members of the teaching staff have been as active in professional practice as their teaching schedules have permitted. This the Chairman has encouraged in the belief that constant touch with the ever-changing building methods and practice is essential to good teaching. This activity is, for the larger part, carried on during the summer months. Other colleges in the state have been served in this manner. The new Chemistry Building at Wittenberg College was designed by Mr. Baumer, and he is this summer preparing the plans for the new Science Building to be built at Antioch. Practically all of the recent building at Kent Normal School, including the new Library, and much of the recent work at Kenyon has been done from plans prepared by Mr. Ronan.

The Chairman has continued his studies on the Early Architecture of Ohio, and this year a third student thesis in that field has been completed at Marietta.

Messrs. Ronan, Buck and Oman have a new text in *Shades and Shadows* well on to completion and will use it in preliminary form in the classroom during the coming year. Mr. Buck has also contributed an excellent article to the magazine *Pencil Points* this year. The Chairman desires to commend the high excellence of the teaching service of all members of the Department.

The pressing needs of the Department are additions to the teaching force and considerably more space in a much-needed addition to Brown Hall. For more efficient teaching in the lecture courses, the sections must be reduced in size. From 16 to 20 students can be handled efficiently by each instructor per week in any of the eight design courses. Next year there will be not less than 120 such students each quarter in these courses who, properly taught, will require six instructors giving about 12 hours per week to such instruction. These conditions cannot be met without material addition to the teaching force.

In the course of the year, the Department had to convert the materials laboratory in the basement of Brown Hall to the use of an additional drafting room. Half of a lecture room was used in the same manner, and, in addition to this, during the first quarter a laboratory section in Architecture 421 and one in 401 had to be scheduled in the Horticulture and Forestry Building. This removed these students from the working library in Brown Hall. The three



departmental drafting rooms well fitted for that purpose were greatly overcrowded. For the coming year, the Department should have two additional drafting rooms, a lecture room is needed, and more office space. When compared with the departmental libraries of other schools, ours is exceedingly poor both in space accommodation and in material content. Should the Department continue its numerical growth at the present rate, the situation will be critical. The Chairman urges the very great importance of the completion of Brown Hall. In the past year, courses 421 and 401 were repeated in the spring quarter. It is proposed that the new course, Architecture 520, replace these two courses, as it lightens the teaching load in the Autumn, thereby increasing the space in the drafting rooms, and enables the irregular student to proceed more rapidly in the completion of his course.

The Chairman has for some years requested that the work in photography be set up as a separate department under Mr. Haskett. The administration of this work by the Department of Architecture places a quite unnecessary burden on the Chairman, it charges the expensive equipment for this work in the record of the University as architectural equipment, and it is unfair to Mr. Haskett, who is certainly competent to assume the full responsibility of the work. For the most part, it is a service department, providing the entire University with Photographic service. In so far as the Chairman knows, this is the only case in the University where such service is furnished by a teaching department. Were the service architecture, there might be some reason for the arrangement. The separation of these two quite different departments would certainly increase the efficiency of each.

Much of the photographic equipment is obsolete. Some of the modern equipment in use for the University is the personal property of Mr. Haskett. The department particularly needs modern motion-picture equipment, slow motion-picture equipment, and photo-micrographic equipment. There have been many requests from a number of departments for service requiring the above items.

#### BROADCASTING STATION

The past year Broadcasting Station WEAO has maintained its position among the foremost college and university broadcasting stations of the country, in point of program and service rendered. While the general trend towards higher-powered stations has cut down the service area to some extent during the evening hours, reports reaching the station from listeners directly and through members of the faculty indicate very definitely that the station is rendering a valuable educational and informative service to the people of Ohio.

The addition of an Assistant Operator and Announcer to the station staff has permitted a program to be broadcast that is more representative of the University. Many more lectures by important speakers that appeared before audiences in the University auditoriums and classrooms were broadcast, bringing the listener much of the atmosphere and proceedings of the lecture hall and its audience. During the year the proceedings of the Educational Conference, Farmers' Week, the Baby Chick Fair, the Ohio State Flower School, the series of summer lectures arranged by the College of Education, and the "Broaden Out Engineer" lectures were made available through the Radio Station to thousands of people throughout the State who were unable to attend in person.

The regular lecture program broadcast three evenings each week has progressed under a plan similar to that of the previous year. The idea of broad-



casting lectures in regular series with a period each week for each subject has met with continued favor and success, and has been followed closely. In this manner 383 lectures have been broadcast during the fall, winter and spring quarters, by 194 members of the faculty representing 40 departments of instruction of the University. An extensive program of lectures and educational information was also broadcast during the summer quarter, when a large number of visiting professors appeared before the microphone. A comprehensive program in daylight hours has also been presented with material designed especially for those interested in agriculture and woman's progress.

During the year President Rightmire, President Emeritus W. O. Thompson and the deans of five colleges of the University spoke before the microphone of WEAO, while a few of the more prominent visiting speakers included President Clarence Little of the University of Michigan, Senator Simeon D. Fess of Ohio, and Assistant Secretary of the Navy, Edward P. Warner.

Regular program features, or those programs given regularly throughout the year, included market reports broadcast four times daily; the weekly farm-night two-hour program; weekly "Story Hour" by Assistant Professor Harbarger, Department of English; weekly "Economic Information for the Farmer," by Assistant Professor Arnold, Department of Rural Economics; and the "Homemaker's" Half-Hour presented three days each week, by Professor Lanman of the Department of Home Economics. These faculty members are to be especially commended upon the excellent cooperation they have given the station. The market report service has been expanded, and, under the guidance of the Agricultural Extension Department, has been made the most extensive and complete service available throughout the State. The close cooperation of the State Department of Agriculture has made this possible.

The cooperation of members of the University faculty has been commendable during the past year. Special mention is made of the faculty of the College of Agriculture, who have responded with a great deal of interest. The fact that approximately 35 per cent of the station's program (which includes market reports) has been of an agricultural nature is important, since it indicates that the College of Agriculture has prepared and arranged its program with very little effort on the part of the Radio Station staff. It is worthy of note, however, that the general University program is becoming larger each year in comparison to that of the College of Agriculture. This is due to an increased desire on the part of the faculty to reach an audience throughout the State. The cooperation of the new Department of Music is also commendable, and it is hoped that it will take even a larger part in the Station's program in future years. The programs of the Broadcasting Station, to a large extent, are dependent upon the cooperation of the faculty, and every precaution and suggestion will be followed which will encourage a continuation.

The station records show that during the past year a slightly larger program has been presented. 1,482 separate programs totaling 976 hours and 28 minutes were broadcast. This represents an increase over the preceding year of 30 hours. The principal improvement, however, has been in the type and quality of program as mentioned above.

The monthly printed Radio Program was published for the second year, 5,000 being distributed each month. This program is of considerable value to the station as it provides a suitable guide for those following the program of the station.

The equipment of the station has been improved by the addition of a com-



plete new system of pick-up apparatus and controls for the studios. The apparatus was designed, constructed and installed by the station staff and represents a considerable saving to the University. It contains all modern improvements and equipment for every need in presenting programs and has proven both reliable and efficient. A piezo electric oscillator has been installed in the Radio Station, providing the best known means of maintaining a constant transmitting frequency as required by law.

Extensive remodeling of the Broadcasting Station studios and offices is now under way and will result in improved facilities for handling the program and business of the station, as well as to receive the large number of visitors that come to the station.

The Broadcasting Station Committee has recommended the erection of a five kilowatt broadcasting station to replace the present equipment within the next two years. This is in accordance with the present-day development and use of higher powers which assist in overcoming difficulties experienced in radio communication. The erection of such a station presents many difficulties, principal of which are the high cost of equipment and provision of a suitable location. A much-improved service to the people of the State will result, and enable programs to be heard satisfactorily over almost any condition.

The Director of Broadcasting Station WEOA has been elected as a Director representing the fifth zone, comprising five states, of the Association of College and University Broadcasting Stations. This organization has taken an active part in coordinating the efforts of educational broadcasting stations throughout the country.

#### CERAMIC ENGINEERING

Interest in Ceramic Engineering at The Ohio State University shows no sign of decreasing. There were graduated twenty-nine students in the year 1927-1928, and the Senior Class will exceed thirty in 1928-1929. The teaching staff has been greatly strengthened by the addition of Professor R. M. King, who handles refractories and enamels and also the elementary courses. He will assist, too, with the advanced courses. He is a real teacher, and a fine cultured gentleman.

The first Ceramic textbook published in English appeared in 1928, and was immediately introduced by this Department as a partial text in three courses. We are using library references and neostyled material in increasing amounts, to give more time for quizzes and written examinations. Dr. S. R. Scholes, who gave ten lectures on Glass Technology in 1927-1928, has been provided with a small salary for 1928-1929, so that he is now officially a member of our teaching staff and will develop a course in Glass Technology, which is being called for by glass manufacturers, who need men with such training. No such course is available elsewhere. The Chairman of the Department has organized a correspondence group of all Ceramic teachers in the United States and Canada, and we are studying Ceramic Engineering teaching methods. This shows promise of valuable results in cooperation between the various schools. He has also compiled a Book of Standard Ceramic Processes and Test Procedure, and an Appendix of Standard Equipment and Test Apparatus. This was published in June 1928 by the American Ceramic Society. It will be used as a textbook in teaching clay testing. The promotion of Ceramic Research has become exceedingly active through the cooperative fellowships with



the Bureau of Standards, and the graduate work offered by the Department, of which Ceramic Alumni of other institutions are taking advantage.

The Department is cooperating in the encouraging of improved Ceramic processes of manufacture with the Ohio Ceramic Industries Association. In 1928-1929, we will assign some students each quarter to the new Ceramic Heavy Clary Ware Laboratory just completed at Roseville, and the outlook is very promising. The value of this type of training is recognized by all manufacturers and the industries which cannot benefit by this Heavy Clay Laboratory are beginning to discuss the possibility of a Whiteware Laboratory at one of the Whiteware centers. No one can predict how far this cooperation between the University and the Ceramic Industry can and will go, but the interest and enthusiasm evidenced by Ohio manufacturers and by other ceramic manufacturers outside our State shows that the efforts of the Ohio State University to help its engineering industries is gladly received and much industrial profit from these efforts is predicted.

The progressive attitude of Ohio State University is recognized throughout the United States in Ceramic Circles so that we had many more calls for ceramic graduates than we could supply in 1927-1928. The fact that the Ceramic Engineering teaching staff at Ohio State is made up of men who have had abundant industrial experience in the subjects that they teach is looked on with distinct favor by manufacturers who are beginning to use Ohio State University Ceramic Engineers in plant operation and development, and not as mere laboratory men.

A short course for Plant Managers, provided in March 1928, was attended by forty-eight ceramic managers and assistants. All were very enthusiastic and claimed great benefits. The cost was met by a fee charged to each attendant. These and many others are clamoring for another such course or perhaps a two-weeks course in March 1929. Plant owners and executives claim the benefit of these contacts with the University are very marked, especially in overcoming old and obsolete methods which have hindered progress in the past. The Ceramic Industries are inquiring about the development of a Ceramic Extension Course for plant employees. A feeling prevails that this is a future need, and not far distant. Such a move would call for at least two well-trained men in addition to our present staff. If a Whiteware Research Station is established, this would also call for several ceramic leaders, especially if the Station is located in a whiteware industrial center.

#### CHEMISTRY

It may be said at once that the work of the year has not been marked by any outstanding happenings. Each member of the teaching staff has carried on his work faithfully and with a fine and sympathetic spirit, and the students have responded in a similar spirit. Taken as a whole, I am sure that the Department has had one of its most successful years in the history of the University.

Naturally the work has been somewhat handicapped because of the fact that the classes are scattered in different buildings. The Department is looking forward to the completion of the new building with great anticipation. There is no question but that the work can be made more effective when it is all centered in one building.

The Department has been fortunate in again having the full time of Professor William E. Henderson. He represents a field of work that is of the greatest importance. His return has made it possible to stress the advanced inorganic and historical side of the work—a step greatly to be desired.

The registration in the first-year courses of Chemistry amounted this year to approximately 1600. The work of each of these students is divided into three parts; namely, lecture, laboratory and quiz. To properly direct the work of such a large number is a task that only those can appreciate who have attempted it. The administrative side of the work alone requires the



ability to direct that is possessed by very few. Dr. William Lloyd Evans and his associates deserve the greatest praise for their untiring and cheerful efforts in making an outstanding success of this work.

In harmony with the general program of the University, the Division of General Chemistry has made an earnest effort to improve the instruction in the first-year classes. Last autumn during Freshman Week, all first-year students who expected to study Chemistry were required to take a "Placement Test." The results of this test were used, as far as possible, as a basis for segregating the students in accordance with their ability. While our experience has not been sufficiently extended as yet to judge of the value of these tests, Professor Evans and his associates are satisfied that they have sufficient value to warrant their continuance.

The Division has recognized for some time that the work could be greatly improved if more homework could be required. However, the limited assistance available made it impossible to examine weekly such large numbers of papers as this home work would require. This year, for the first time, President Rightmire gave the Department a sum of money sufficient to employ a number of "readers" and so make possible this increased amount of home work. As a result, the students received such thorough training in the solution of problems that, at the end of the year, they could readily solve all kinds of problems properly falling within the limits of first-year courses in Chemistry.

The students in General Chemistry are divided into two large groups. Those who have never had a course in high-school Chemistry are placed in one group, while students who have had such a course constitute the second group. It is always a very difficult problem to decide just what work should be assigned to this second group. For the past two years Professor Evans has given to this group a series of lectures on the "Nature of Matter." This year he was assisted by Professors McCaughey, Mack, and Alpheus Smith, representing other fields of allied work. Each student was then required to present a theme bearing on some phase of the general subject included in the lectures. The Department of English, represented by Professors Beck and Harbarger, cooperated in a very effective way. As a result, many of the themes handed in were of very high character. One of them, written by Miss Phoebe Arnold Paine, has been accepted for publication in the *Journal of Chemical Education*.

It will be recalled that last year the students in the Division presented to the University the sum of \$280 to be used for designing and erecting one of the laboratories included in the New Chemical Building, a tablet to the memory of the late William Edwards Morley. With the approval of the Board of Trustees, this particular laboratory is hereafter to be designated as the Morley Laboratory, and it is believed that the students will consider it a distinct honor to be allowed to carry on work in a laboratory dedicated to so eminent a chemist. This year the class subscribed an equal sum for designing and constructing a similar tablet bearing the name of Joseph Priestley, and the laboratory in which this will be placed will hereafter be known as the Priestley Laboratory. The dedication of the individual laboratories to great outstanding chemists cannot fail to have a marked educational effect upon those who are privileged to work in these laboratories.

The William Edwards Morley Cup, which for a number of years has been presented by the local chapter of the Alpha Chi Sigma fraternity to the freshman student having the highest scholastic standing in first-year Chemistry, was awarded this year to Miss Phoebe Arnold Paine.

That the members of the instructional staff of the Division are alive in their effort to improve the teaching in the Division is shown by the fact that no less than seven different articles, coming from the Division, have either been published or accepted for publication during the year in the *Journal of Chemical Education*.

It may be noted that the freshmen laboratories in the New Chemistry Building are supplied with 1632 lockers. This year the registration ran to 1600. If the usual increase in registration continues, the locker capacity will be exceeded next year.

There was a marked increase this year in the number of students enrolled in the division of Analytical Chemistry. One section of twenty could not be accommodated in the laboratory, but the Department of Pharmacy kindly allowed this number to carry on their work in the Pharmacy Laboratory. The character of the work, while remaining essentially the same in the fundamental outlines, nevertheless has been changed considerably in order that the work may be adapted to modern demands. In addition to the fundamental work of the Department of Analytical Chemistry, considerable attention is given to advanced Qualitative Analysis, Gas Analysis, and especially to certain problems in the field of Water Chemistry. The Department has been especially fortunate in receiving the indefinite loan of valuable pieces of apparatus. The Ward Love Pump Corporation of Rockford, Illinois, has loaned the Department one of the most modern types of household water softeners, which will make it possible to carry out valuable researches. Likewise, the Page and Jones Chemical Company of Hammond, Indiana, has loaned the Department a valuable experimental boiler. This has been set up in the basement of the Chemical Laboratory and is being used in investigations bearing on boiler feed-waters.



The Department is indebted to the Phi Lambda Upsilon honorary fraternity for awarding each year a number of books to that student in second-year Chemistry who makes the best grades in the course. This year the award was made to Joseph A. Orsino, an outstanding student of very marked ability.

This year, for the first time, there was given an advanced course in Physical Chemistry — three hours a week throughout the year. The course consisted of three lectures a week dealing with the most advanced problems in the field of Physical Chemistry. Seventeen students registered in this course — an unusually large number for such an advanced course of study.

For several years past there has been a growing demand for a brief elementary course dealing with the fundamental principles of Physical Chemistry. The regular course in this subject runs throughout the year and this fact, together with the necessary prerequisite of a course in Calculus, has made it impossible for many students to obtain any knowledge whatever of the subject. This year an elementary course running through one term has been adopted so that hereafter students in such subjects as Medicine, Botany, and Zoology will find it possible to get some insight into this important field of Chemistry.

The registration in the division of Organic Chemistry continues to increase. The course arranged primarily for the pre-medical students had a registration this year of over 300. It will be necessary another year to divide the class and thus double the number of lectures to be offered. The work of the Division has been greatly improved this year by the employment of an instructor, Mr. William R. Stemen, who devoted all of his time in a very efficient way to directing the laboratory work of the students.

More and more the importance of Chemistry as a fundamental science is impressing itself both on the educational and the industrial world. The demand for highly trained men capable of conducting research work in the domain of Chemistry far exceeds the supply. As a result the number of students entering upon graduate work in Chemistry is constantly increasing. During the year 93 graduate students electing Chemistry as their major have been registered. To direct the research work carried on by such a large number is in itself a great and important task. It makes possible, however, a large amount of research work. During the year Dr. Evans and his co-workers have continued in their researches in the field of the Oxidation of Carbohydrates. Three important papers have been published giving the results of his investigations. These investigations have attracted wide attention and The Ohio State University is becoming recognized as an outstanding place for fundamental research work in the study of the Chemistry of Carbohydrates. Noteworthy contributions are also being made in a number of subjects bearing on the general subject "Constitution of Matter," through the joint cooperation of the Departments of Physics and Chemistry. The University is rapidly becoming known as a place outstanding in its researches bearing on Absorption Spectra. Professor France has continued his investigation in the field of Colloid Chemistry, while Professors Mack and Blake and their students have made two outstanding contributions, the one on the Crystal Structure of Iodine and the other on the Decomposition of Ethylene Oxide. Professor Foulk has continued his work on the industrial problems connected with the various uses of water, while Dr. Day and his associates have continued their important work on the Catalytic Oxidation of Carbon. Professor Cecil E. Boord has likewise made important advances in his studies on the Mechanism of the Grignard Reaction, and also in the field of Rubber Chemistry.

#### CHEMICAL ENGINEERING

The work of the past year has been satisfactory and encouraging from a number of points of view. We regret that the University is powerless in the matter of the emergency for Pharmacy and Chemistry, brought about by the remodeling of the old chemistry building. We were glad to cooperate, but regret as you must do, that this cooperation enforces upon us the abandonment of a portion of our work carried on in rooms 152, 155a, and 155b. The important part of this work is the chemical engineering erection and study on a big scale which we had begun in room 155b, but which will not be possible while the room is temporarily used by others. We are glad, however, to help in the emergency.

It is fortunate, therefore, that the nature of the larger portion of our work is such as not to permit the filling up of all working space by our students. These working spaces are used in series for developing special problems, but the removal of the material from such working places requires the practical abandonment of many special problems for our students that we may be enabled to furnish what thereby becomes incompletely occupied space. As the emergency is over, we will again occupy these desks by our special-problem program fittings as rapidly as we can unscramble our material from storage. We will find some way of making up *ad-interim* losses by our students.

You will be interested to note that during the past year we drew little or none upon the University for moving. Little by little we moved from the old building and set up our equip-



ment, ourselves, until about two-thirds of it has been moved. The balance we must move at an early date.

The hard work of everyone connected with the staff of the Chemical Engineering Department is the reason, in the eyes of Industry and of other institutions, for the success of this department. You will be interested to know that in the fall quarter alone we had inquiries for over forty Ph.Ds. in chemical engineering which we could not fill as well as requests for other chemical engineers. Our alumni continue to merit notable success and considerable appreciation in the corporations in which they are employed.

We had no less than six requests for assistant or full professorships, some of them to begin chemical engineering work in eastern universities, running from New York to Kansas. We were able to greatly increase the salary of Wilson F. Brown by having him made associate professor in one of these institutions and should have put one of our instructors in another, if he had not declined to accept promotion elsewhere. The head of the Department has been interviewed by the President of an eastern school for the Deanship in Engineering for which you suggested he should not be a candidate. Officers of the American Chemical Society suggested the chairman for an Atlantic seaboard chemical corporation as assistant to the President. This same company attempted to persuade the undersigned before the war to become director of its research at a salary of approximately three times his present salary.

Our students are so much better situated in the new quarters, unfinished as they are, that we are ashamed to complain. It is so good to have the students out of the quarters in which we operated for eighteen years in the basement of the old chemistry building. The assistance of the Dean and of the President, in this matter as well as many other matters, has been appreciated.

#### CIVIL ENGINEERING

For the fiscal year ending June 30, 1928, we had 198 students above the rank of freshmen in this Department. (We do not have any first-year classes.) This is the largest number we have ever had. It is larger than was in the whole University forty years ago when I first matriculated here as a student in September, 1888. Now, students graduate four times a year, in contrast with only once in June as formerly. We have now twelve instructors of whom nine give full time to the work. This is more than one-third of the entire University faculty of forty years ago. We rank about sixth in attendance among Civil Engineering departments of the country. Twenty years ago we ranked twelfth. We have thus had a slow but healthy growth in Civil Engineering.

Our students at present seem as purposeful as in the past, although it must be admitted that there are many more distractions now to interfere with studying. A larger proportion of our young men at present pay their own schooling expenses wholly or in part. Of the nineteen who took their diplomas in June, 1927, all had engaged in engineering practice (while going through college) from six months to five years, the average being eleven months. The practical engineering experience of the twenty-five who graduated in June, 1928, ranged from six to sixty-nine months, the average being eighteen and a half months. The total yearly graduates are now about forty.

The sprinkling of practical experience along with college studies helps maintain a purposeful student spirit. Besides engaging in engineering practice, many of the boys also get part-time work in non-professional fields between classes. This kind of work is not counted in the preceding figures. Such clerical or menial work, although seeming necessary to many of the students, is not always without disadvantage, since it seems to hamper concentration on studies at times. However, the greatly increased cost of education forces a condition not a theory upon the present-day student.

The Department helps its students to get engineering positions for summer vacations. Of course, it also aids Seniors in getting work upon graduation. They are all, however, encouraged to get work for themselves, as a practical course in getting jobs. Through the efforts of the students themselves and of the Department, we have had remarkable success in securing work in the practical field for all students after they get into the Department.

We have been carrying out the four-quarter plan in good faith to meet the main purpose for which it was installed in 1922, namely, to make University facilities more convenient for the students. We have run trailer sections in those departmental subjects in which classes and finances warranted economical administration. We have also made thesis work flexible for the same reason, and for the additional purpose of encouraging high quality of student effort. The foregoing has thrown heavier loads upon our instructors than the formal reports of the term's work indicate, but it has been for the benefit of the student.



Our students have increasingly taken advantage of the above-mentioned flexibility in the curriculum, as shown by the fact that since the four-quarter plan was established, fifty-four have graduated at other times than in June. Such figures to date for the whole college are as follows:

Civil Engineering .....	54
Electrical Engineering .....	21
Ceramic Engineering .....	22
Metallurgical Engineering .....	15
Mechanical Engineering .....	14
Chemical Engineering .....	12
Mining Engineering .....	8
Architectural Engineering .....	7
Architecture .....	8

That is, more than twice as many Civils have graduated (at times other than June) than from any other department in the college. This shows the boys are using the flexible four-quarter plan.

In the Department, careful statistics are kept of student attendance and experience so that employers desiring help may be supplied with qualified young men. In each student's folder is deposited his schedule of daily studies. On the back of these cards are his permanent and Columbus addresses, telephone, and a brief statement of his experience. In this way we are able quickly to get in touch with any of them needed by employers. Also, in the student's folder is kept his employer's estimate of his past services, recorded on a blank printed for the purpose.

Our methods of conducting examinations and determining student grades may interest the general public. The student is graded upon his daily or written work, in the form of problems or reports (which are usually of original character), upon examinations, and upon attendance. Examination papers are graded and returned to the student as promptly as possible after day of examination. On the day of return, the questions are reviewed and discussed in class. Corrections are made of any erroneous marking discovered by the students in the discussion. From three to five examinations are held each term. The corrected examination marks are usually counted from one-third to one-half of the term grade. Attendance is also counted in a smaller proportion, because we wish to encourage young engineers to believe that it is important for them to be on the job.

Although the welfare of our students is the foremost concern of the Department, our instructors have not neglected research and practical affairs. Professor F. H. Eno has for some time studied the effect of sub-soils on highway pavement failures and has just published a preliminary report as Bulletin No. 30 of the Engineering Experiment Station. Professor C. T. Morris made a study of dead-load stresses in the columns of the A. I. U. building at Columbus, and published the results recently as Bulletin No. 40 of the Engineering Experiment Station. Other Experiment Station studies, by Professor J. R. Shank, R. C. Sloane, and C. E. Sherman, are under way and are expected to be printed soon.

Professor J. C. Prior has acted as consulting engineer for the City of Columbus on extension of its water-supply system, and has prepared plans and specifications for an important part of the work, which have been recently printed in two volumes. Professor E. F. Coddington has been engaged as an assistant on a Coast and Geodetic Survey triangulation party. Instructors A. G. Wyatt, O. J. Marshall, and E. K. Timby are to be engaged by the U. S. Geological Survey as plane-tableers on river surveys, after the end of our summer-camp season.

In material equipment, the Department has been steadily improving, until we hope to rank before long with the best. Comparative figures of the equipment assets of north-central state universities taken from annual reports as of June 30, 1927, are as follows:

Illinois .....	\$63,933.95
Michigan .....	57,852.57
Purdue .....	49,435.78
Ohio State .....	33,195.49
Minnesota .....	16,340.84
Iowa .....	9,147.28

The foregoing figures for Michigan do not include equipment in the Department of Geodesy (usually included in Civil Engineering elsewhere) valued at \$27,239.01, nor a permanent surveying camp site valued at \$18,538.12 exclusive of land and buildings.

Our most serious shortage, compared with other schools, is lack of adequate housing. The east end of Brown Hall (which houses the Department) stands today just as it was built in 1903. It was inadequate then through lack of appropriation at that time. We hope for amelioration at the next session of the Legislature.

## ELECTRICAL ENGINEERING

The past year has been one of the most successful in the history of the department. The practice of defining and publishing each quarter, as honor groups, those juniors and seniors who, during the previous quarter, had point ratios of 3 or above, has been continued. As one measure of the department's success, the following data on these groups are given:

	Autumn	Winter	Spring
Junior .....	15	11	13
Senior .....	11	10	7

The spirit among the students has been good, and there is nothing but praise for their cooperation in the work of the department. As substitution of other work for thesis is freely permitted, the fact that 37 out of the 47 seniors graduating in June elected to take theses indicates a wholesome interest in research. There is evidence in the number of seniors electing advanced mathematics of an increasing interest in the application of that science to technical problems.

In contrast to these expressions of satisfaction, mention must be made of a regrettable tendency on the part of certain seniors who have had excellent records in their earlier years to so load themselves up in their last year with outside work and activities that their record falls to little more than average. It is hoped that the Lamme Scholarship, which will be in competition next year for the first time, may improve this situation.

With the cooperation of Professor Everitt and the friendly permission of President Rightmire, a number of students, banded together as the Ohio State Radio Club, built a small operating room and antenna for short-wave telegraphy west of the laboratories and are achieving notable results in communication with distant parts of the world.

The increasing number of students taking graduate work is a new development. During the four quarters ending in June, eight graduates were registered for major work in Electrical Engineering. Notable among these was the case of John Francis Byrne whose undergraduate thesis work was so promising that Professor Everitt, acting through Perry Okey, obtained from a friend of the University a special fellowship to enable Byrne to continue his study of short-wave antennae. John D. Ryder, one of the June graduates, has been awarded the Robinson Fellowship for next year. He competed for this honor with a Czechoslovakian student of remarkable record. With the relatively small number of graduate students, individual instruction by conference is the only practicable method of instruction. To facilitate this a list of suggested reading course have been prepared.

The awarding at commencement of seven professional degrees, half of the total number given, to Electrical Engineering graduates may be mentioned. The teaching staff, above the rank of assistant, was unchanged from that of the preceding year. The cooperation on the part of the members has been better than in former years. A series of get-together evenings was arranged. At some time in the year each of the married members of the staff living in Columbus has played the part of host.

In addition to their work as instructors, the members of the staff are to be credited with the following accomplishments: Professor Puchstein has contributed a paper on "Loaded High-Voltage Long-distance Cables" published in the April 7 issue of the *Electrical World*. He has also ready for publication an Experiment Station Bulletin, No. 42 on *Design of Small Direct-Current Armatures*. He has recently received several unsolicited offers of industrial positions. Professor Kimberly has been doing some development work on a volt-ampere-hour meter for which he may apply for a patent later. Professor Everitt expects soon to publish jointly with John F. Byrne a paper on short-wave antennae. He spent the summer of 1927 with the American Telephone & Telegraph Co. in New York City and at their urgent invitation has returned to them again for the summer of 1928. Mr. Tang has nearly ready for publication an Experiment Station bulletin on *The Lighting of Tall Buildings by Means of Light-courts*. Mr. Lloyd has acted as Instructor in Electrical Engineering at Antioch College, giving one day a week to this work.

The Chairman has continued his work for the Illuminating Engineering Society on its Committees on Street Lighting, Lighting Legislation, and Motor Vehicle Lighting. As adviser to the Ohio Commissioner of Motor Vehicles, he attended the meeting of the Eastern Conference of Motor Vehicle Commissioners, held in Cleveland. Acting for the Engineering Experiment Station he continues as the Testing Authority for approval of head-lighting devices in Ohio. An article of his "What Is Adequate Industrial Lighting?" appeared in *Industrial Power*. There was also a short article in the *Monitor* of the Ohio Industrial Commission. An extended review of the 1927 report of the Committee on Street Lighting of the Illuminating Engineering Society was published in *Good Lighting* of London, England, and (in German) in *Die Lichttechnik* of Vienna. The Chairman continues as a Director of the Eye-Sight Conservation Coun-



cil and as Trustee of Antioch College. Immediately following commencement he acted as expert in a patent suit at Toledo involving fundamental patents on the "dual-beam" system of automobile head-lighting.

A notable event of the year was the group of lectures given by Dr. E. J. Berg, Professor of Electrical Engineering at Union College and Consulting Engineer of the General Electric Company. It is believed that this was the first occasion when the funds of the Graduate School were made available for bringing a lecturer on an engineering subject to the University.

The very limited funds available have permitted little addition to the equipment of the department. The setting up of the equipment of the communication laboratories has gone forward under Professor Everitt. If the hoped-for laboratories and needed additions to apparatus in this division of the department are forthcoming during the next biennium, these laboratories will be among the best of their kind in the world.

Though almost nothing new has been added to the dynamo laboratory equipment, a considerable increase in effectiveness and in the safety of instruments has resulted from the change in location of the instrument room from the center of the dynamo laboratory floor, and its combination with the department library in an enlarged room on the north side of the laboratory. This room was provided by moving Professor Puchstein's office to the second floor and taking out a partition. The employment of Miss Susannah Bryant, Commerce '27, as Instrument Room attendant has been satisfactory. Her care of the books also increases the safety of these.

With regard to the needs for the future, the work of the department should be strengthened by the addition of another well-paid full professor. There is special need for re-enforcing the instruction in power transmission and electrical control equipment. This latter especially has received practically no attention in our courses. It is continually increasing in complication and importance.

There is need also for greatly increased equipment appropriations if the department is to keep the enviable position among the electrical engineering departments of the country which it now holds. The communication laboratories, being still in their infancy, are in need of important additions. We understand that very uncomplimentary comments upon the antiquity of some of our dynamo laboratory equipment are being made by alumni and others.

#### ENGINEERING DRAWING

In an report of the Department of Engineering Drawing, the outstanding thought is of the fine spirit of harmony and *esprit de corps* of the staff. One of the factors in the success of this department has been in the continuity of service in the teaching force.

The Department has held its regular weekly meetings throughout the year, complete records of which have been sent to the President. The second year of teaching Descriptive Geometry by the "direct method", without ground lines or planes of projection, has demonstrated to the satisfaction of the Department its advantages over the orthodox method of handling this difficult subject. The class "mortality" has been greatly reduced, a genuine interest maintained and the number asking to have it dropped from their schedules reduced to almost nothing.

The Department feels complimented in the advancement of Mr. Turnbull to the Junior Deanship but will miss keenly his judgment and experience in its counsels. His work with the Civil Engineers will be carried on by Mr. Jones, and his other work distributed among the various members of the staff. The Department is looking forward with great interest to the proposed meeting of the S. P. E. E. in Columbus, in 1929 and is preparing a departmental exhibit in connection with it. Next year with the additional instructional help allowed, better attention can be given the freshmen. The principal congestion points will be in Courses 421 and 437.

#### INDUSTRIAL ENGINEERING

The only new undertaking during the past year has been the making of a Drill Press, designed by Professor W. A. Knight for the course in Industrial Engineering 623. This drill press represents a project of considerable study and calls for effort on the part of the student to machine such things as bevel gears, spindles, pulleys and other more intricate pieces of mechanism that the drill press calls for. We find that this work is very valuable to the student, giving him considerable practice in machine-shop work.

A new idea has been introduced this year in class room work. Some of the subjects in the Industrial Engineering Curriculum do not seem to be related to each other. Accordingly, one hour each week has been devoted (1) to the study of current literature; (2) to the correlation of the different subjects with each other and the relation to outside work. A questionnaire was taken up in the class, and the students thought this work was of such value as to merit its continuation this coming year. This hour has been given to seniors in the Department.



No reorganization was made in the curricula, but during the past year an experiment was tried of having an elective course without credit to discuss the "Laws of Management". The average attendance in this course was so satisfactory that it would seem well to recommend its incorporation as a regular credit course for next year.

The Industrial Engineering Department has given cordial support to the lectures given under "Broaden Out Engineers", in which men of national importance came to the University to give talks on topics of interest to the students in the College of Engineering. We also should mention our "Visitor's Night," during which the shops of all divisions were open, and volunteer students worked at night time. Over a thousand visitors attended this exhibition of work in the Department.

An effort has been made to establish an *esprit de corps* among the students in Industrial Engineering. A student technical society has been formed and was conducted successfully this year. Men of importance from various manufacturing concerns talked to the students on problems of especial interest. A good spirit was fostered by having these meetings dinner meetings. This student society has so expanded that it was decided to form a union with the National Society of Industrial Engineers, a union which will be of great benefit to the students.

Assistant Professor Rickly is Assistant Secretary of the American Institute of Weights and Measures, a national body occupied with research relating to units of measurements.

Professor Knight maintains contact with the Tool Division of the A. S. M. E. and has attended the meetings at his own expense.

Mr. Foust is a prominent member of the American Society of Steel Treathers and has attended the National Meetings of this Society at his own expense.

Mr. Younger is Chairman of the Publication Committee of the Society of Automotive Engineers and a member of Production Advisory Board of this Society. To maintain this contact, he attends the meetings of this Society at his own expense.

Mr. Younger has also contributed several articles to the technical press on Industrial Engineering topics.

Mr. Schneider maintains contact with the American Foundrymen Association and takes an active part in its work.

The thesis of each student in his senior year is a matter of interest with regard to research, as many of the students are taking up really serious problems to base their theses on. I mention a specific case: Mr. Armington, one of the students, has worked out a production system for the making of the drill press, in course 623, which will be of great benefit to the Department. Aside from this, however, there is no research being done. We may state that research in Industrial Engineering calls for exceedingly expensive equipment, such as machine tools.

The pressing need of the Department is equipment for the machine shop, pattern shop, forge shop and foundry. Our students are increasing in numbers and our sections are becoming too large for our present equipment.

### MATHEMATICS

In previous annual reports of the Department of Mathematics, attention has been called to our committee plan of organization. In the present year this plan has been supplemented by the addition of a committee, consisting of Professors Rasor and Weaver, on the teaching of freshman mathematics. During the year this committee has studied and has inaugurated policies concerning, (a) written reports from students in our fundamental subjects, (b) methods for securing uniform grading of examinations and reports, and (c) supervision of the teaching of assistants. In each of these matters the efforts of the committee have had a wholesome influence on the work of the Department.

During the last few years our Department has given lightened teaching loads to its new members who are especially well qualified to do research and to direct the work of students who are candidates for advanced degrees. The results accomplished justify this policy. This year Professor Michal has published two important papers, one in the *Transactions of the American Mathematical Society* and one in the *Annals of Mathematics*; Professor MacDuffee has published one in the *Annals of Mathematics*; and Professor Weaver, one in the *American Mathematical Monthly*. Several other important papers by members of the Department have also been accepted for publication during the year; these include a paper read before the American Mathematical Society by Mr. T. S. Peterson, one of our candidates for the degree of Doctor of Philosophy. Professor Weaver is also co-author (with Professor Carmichael of the University of Illinois) of a textbook on the Calculus published by Ginn and Company in October, 1927. Some of the older members of the Department should have lightened teaching loads, and it is hoped that this can be done in the near future.

In the course of the year Professor Constantine Caratheodory of the University of Munich and Professor Paul Alexandroff of the University of Moscow, two distinguished mathematicians



of Europe, delivered important lectures at the University. Professor Caratheodory lectured on the "Calculus of Variations", and "Axioms of Relativity". These lectures were well attended by members and students of this and allied departments of the University, and also by a number of mathematicians from various Ohio Colleges. Both sets of lectures were given under the auspices of the Graduate School.

Three educational meetings of importance to the work of the department of Mathematics were held at the University the past year. One of these was the meeting of the Ohio Section of the Mathematical Association of America; the program presented at this meeting was of interest chiefly to university and college teachers. Professor Michal of our Department read a paper before this meeting. A second meeting was that of the mathematics section of the Ohio Educational Conference; the program presented at this meeting was largely concerned with the teaching and subject matter of high school mathematics. The third meeting was that of the Ohio Conference of Statisticians; this conference devotes at least one session of each meeting to mathematical methods in statistics.

### MECHANICAL ENGINEERING

Under new undertakings, we would include the receipt by gift from the United States Navy of a Boeing monoplane, made by the Glenn L. Martin Company. (A) This has created some interest in aeronautics. (B) The landing on the oval of a WACO small aeroplane on Engineer's Day. (C) The proposed plans for modestly inaugurating work in Aeronautical Engineering beginning possibly in the Spring Quarter of 1928-29.

We would also report the following: the publication of Engineering Experiment Station bulletin No. 39 on *Boiler Losses* by Professor F. W. Marquis, Assistant Professor Paul Bucher, and Mr. H. M. Faust; Engineering Experiment Station bulletin No. 41 on *Belting* by Professor C. A. Norman and Mr. G. N. Moffat; the design, construction, completion and operation of a variable compression engine by Assistant Professor K. W. Stinson and Mr. C. P. Roberts, in which they have shown much initiative and good judgment, and have spent much time quite enthusiastically and with the help of Mr. R. T. Simpson. Much preliminary work on the *Flow of Fluids* has been done privately by Professors Bucher and Judd and Mr. Beitler for the Bailey Meter Company. This work is being expanded into a project, and will eventually form an Engineering Experiment Station bulletin.

We would record the development of Assistant Professor K. W. Stinson from an instructor in Mechanism and Machine Design to an Assistant Professor of Machine Design and now of Automotive Engineering and the possibility of his teaching one of the proposed courses in Aeronautical Engineering.

We have had some excellent lectures given this year by such men as Assistant Secretary Warner of the U. S. Navy and Dean A. A. Potter before the Student Branch of the American Society of Mechanical Engineers and in the series of Broaden-Out Engineering lectures.

Professor F. W. Marquis is serving the Industrial Commission of the State of Ohio as a member of the Pressure Piping Code Committee, which has to do with the establishment of rules and regulations for the design and installation of high-pressure piping. Associate Professor A. I. Brown continues to serve the state as consulting engineer in the office of the State Architect and Engineer, and has charge of matters pertaining to power, heating and ventilating of most of the public institutions of the State. This department chairman has completed his term of service as vice-president of the American Society of Mechanical Engineers and had the honor to preside at the meetings of the Council at Seattle, Washington, last summer.

The spirit prevalent in the department, both among the instructors and the students, has continued to be most excellent. This can be shown by the fact that at the meeting this May of the Ohio Section of the S. P. E. E. in Cleveland, 18 of our 48 members and two visitors were in attendance from Ohio State out of a total of 54 present; and that of the 18, six were from this department. The way that some of the students applied themselves to make "Engineers' Day" a success also indicated their leadership and initiative and the *esprit de corps* which the Department tries to inculcate. The enthusiasm shown by Messrs. Stinson and Roberts in the building of our new variable compression engine has been noted.

Among the needs of the department, we would mention the need for greater space for Automotive Engineering, and the assignment to this department either of the south end of the old Aviation Laboratory, when the Field Artillery has been moved therefrom; or a still more suitable building to be erected west of it. The establishment of laboratory work in the Aeronautical Engineering, the same to include suitable laboratory space, where the noise would not be objectionable to others, the assignment of a suitable flying field on the campus, and the construction and equipment of one or more hangars. Permission to offer courses in Mechanical Engineering, both classroom and laboratory, during the Summer Quarter of 1929, so as to meet the needs of graduate and undergraduate students, is worthy of further consideration. Also plans for a two-year technical course for those high-school graduates who



show by their work in the first year that they are unable to do the work of one of our four-year professional engineering curricula should be given additional attention.

In addition to the above, we would report the establishment of the practice of suggesting to our graduates of four-years standing that they apply for one of the professional engineering degrees. Fourteen such degrees were awarded on June 11 for work proven to be done by our alumni, and for which in each case a thesis was submitted showing the original work of professional character which has been done by the candidate. We are of the opinion that this practice should be followed up, established and made of the greatest possible benefit to the graduates of this University.

We would recommend the need for closer cooperation of the College of Engineering with the Ohio Colleges, with the hope that more of their upper classmen and graduates will be moved to apply for admission with advanced standing in the College of Engineering after they have had one or more years of academic training at their home college. We recommend that a committee of the faculty of the College of Engineering be appointed to consider this matter wisely and sympathetically.

#### MECHANICS

During 1925-26 and 1926-27, Professor E. F. Coddington gave one-third of his time to Mechanics and the remainder to Civil Engineering. Since the beginning of the present year he has given his entire time to Civil Engineering, and Mr. Ralph W. Powell has taken his place as full-time Assistant Professor. We now have four men, making the staff equal in number to that of 1924-25. There is this advantage over 1924-25, there are no inexperienced instructors. Every man has the experience and training necessary for the rank of assistant professor, or higher, and is properly qualified to instruct the third-year students who make up the bulk of our classes. The Department Chairman is pleased to have Mr. P. W. Ott recognized by promotion to the rank of associate professor. With him and Assistant Professors S. B. Folk and Ralph W. Powell, the staff is eminently satisfactory.

For several years, on account of the reduced staff and the necessity of developing the laboratory in Mechanics 602, the graduate courses, 801, 802, and 803, were not given. These courses were given during the present year with every member of the staff and two graduate students in the class. We hope to develop graduate study on a modest scale in the next few years. The Summer Schools in Mechanics, sponsored by the Society for the Promotion of Engineering Education, at Cornell and Wisconsin in 1927 developed interest in advanced courses in Mechanics in regular Summer Schools. It has been suggested that Ohio State might give courses in 1929 or later. If the demand is found to be sufficiently strong, it is suggested that we give such courses every second or third summer, provided arrangements can be made with other schools to give different advanced courses in other summers. An informal agreement among six schools, by which two of them would give courses every third summer, and each would give the subjects for which it was best equipped, would seem to be worthy of consideration by the management of our Summer School, the Graduate School, and the Department of Mechanics.

The Department of Mechanics has, perhaps, as small a number of courses as any department of the University. The undergraduate courses are Mechanics 601, 603 and 604. Of these, 601 is required of all engineers, 602 is required of all except Architects, and 603 is required of the Civil, Chemical, Electrical, Industrial, Mechanical, Metallurgical, and Mining Engineer.

The yearly enrollment in 601 and 602 is about 250 students each. In 603 it is about 200. Mechanics 604, 3 hours per week, is required of students in Architecture instead of 602. This course is given in the Winter Quarter only, while 601, 602 and 603 are given each quarter. Irregular students in Architecture take 602, 5 hours, or 602, 4 hours, omitting the laboratory, in place of 604. We recommend that 604 be no longer given, and that the course in Architecture be modified to permit 602, 4 hours or 5 hours, to be taken in its place.

As soon as room and equipment can be provided, we recommend the inauguration of an elective course in dynamics (kinetics), consisting of one or two two-hour periods of laboratory and computing work, this course to accompany or follow Mechanics 603. As preparation for this course we are asking for a Hipps chronoscope and some special equipment.

Room 201 is too small for a large class. During the past winter we had to take two sections of Mechanics to other buildings. Room 200 was designed for a Library. There is a large concrete column which greatly interferes with its use for blackboard work. In order to have suitable rooms and to allow for the Departments of Industrial Engineering and Industrial-Arts Education, we request that an addition be built at the rear end of the north wing of the Industrial Engineering Building. This should give two class rooms on second floor, about 24 feet by 26 feet inside, without columns and with windows on one side of each room, leaving three sides for blackboard. There should be a separate stairway leading to these rooms. One-half of the space below these rooms, with a relatively high ceiling, will be needed for laboratory



and demonstration work in dynamics. Professor Younger has use for the remaining half.

This addition will give us a little more space than was originally assigned. When we accepted space in the Shops Building, we were told that we could have all the space used by the Department of Journalism. This included Room 208, which we found had been merely loaned by the Department of Industrial Arts Education. The rooms on the first floor occupied by the bindery were suitable for a Dynamics Laboratory. As all our time then was given to the Strength of Materials Laboratory, we were not in position to use that space. It is now profitably employed as a Sand-Testing Laboratory and an office of Professor Younger. Room 200 has been cut down, making it impossible to enlarge 201 by moving the partition. The additions proposed will put Mechanics in a very satisfactory condition.

### METALLURGY

The Department reports no new undertakings except the usual expansion in research subjects and interests inevitable to any department which keeps up with the times. We believe that our sophomore laboratory classes will be much better supervised in their laboratory work as a result of the following arrangement: Each laboratory section will have a member of the department faculty assigned to it, and he will be with the section continually, whether it is a course which he is formally in charge of or not. In this way there will always be an experienced faculty member in the sophomore laboratories instead of leaving them part of the time in charge of student assistants as was necessary when sophomore classes were under charge of definite instructors, as prescribed in the catalog. Under that arrangement it was often necessary for the professor in charge of a laboratory class to be absent from the laboratory a considerable amount of the time, owing to conflict with other classes which he had at the same time. This will, of course, be an added burden to the faculty members whose office time will be decreased, but we think it is worth trying.

Under the inspiration of the Department, particularly of Professor J. O. Lord, a Columbus section of the American Society for Steel Treating was established about a year ago, and it is now one of the most thriving sections of the Society, which is one of the most successful of the national technical societies. No reorganization has taken place either in the staff or curriculum. However, we are looking forward to a very useful and satisfactory result from the newly organized School of Mineral Industries.

Professor Demorest is a member of committees of the American Chemical Society, American Institute of Mining and Metallurgy, American Society for Testing Materials, American Gas Association, and others, attendance on which is a heavy financial burden; but the contacts so made are felt to be necessary for the department's prestige.

Within the memory of the Chairman there has never been any but the best spirit of eager interest in research and educational advancement, and we take a good deal of pride in the consciousness that our primary interests are of this nature. We feel too that the recently reorganized School of Mineral Industries is going to help to unify the students' interests in such a way as to give the faculty members a better opportunity for inspiring the students with the same kind of spirit. In this connection Professor Demorest is writing a book on the *Principles of Gas and Fuel Engineering* to make more unified the teaching of the Department in Gas and Fuel Engineering. Professor Mueller has already worked up a text on *Fuel Calculations*.

There is no question that the greatest need of the Department is an adequate housing for its activities. A great deal of our senior and graduate work is done in dingy, ill-lighted, and cramped quarters in the basement of the building, under conditions which certainly cannot be very inspiring and under which we cannot use our equipment efficiently. This situation would be relieved if the northeast wing of Lord Hall were raised to the full height of the building. However, I understand that the University is very loath to spend money on Lord Hall, and in this, of course, we concur, provided there is probability of securing a new Lord Hall within a reasonable time. We, of course, do not want to mark time indefinitely with a vague hope that some time the new building may be built and in the meantime have nothing done to the present building.

### MINE ENGINEERING

There has been one outstanding new undertaking in the Department of Mine Engineering during the past year.

After a number of conferences and some correspondence extending over a period of several months between the various parties concerned, our Board of Trustees at their meeting on June 11 took the following action:

In carrying on the work in connection with agreement entered into with the State Board of Vocational Education concerning the conducting of night schools in the mining districts of Eastern Ohio, close coordination in the content of subject matter presented by the several instructors will be developed by Professor H. E. Nold, of the Department



of Mine Engineering and Mr. E. L. Heusch, the supervisor of trades and industries of Ohio, and these two persons will have the directing and supervising of the work of these night schools.

This action of our Board of Trustees makes it possible, for the first time, for our department to enter the field of mining extension. The Department of Mine Engineering has long recognized the desirability of thus serving the mining industry of our state and is pleased to be able to render this service, now that Ohio's new mining law, which requires the examination and certification of fire bosses and mine foremen, has created an active demand for night schools in the mining centers. A two-year educational program is being prepared and the present plans contemplate not less than three full-time instructors in the field next year. Each instructor is expected to teach five classes per week in as many different mining centers.

The plans also contemplate a short period—about six weeks—of school, for mining men at the University each summer. It is intended that these summer schools shall round out the educational program of the night schools by making the facilities of the University available to the mining men for the study of those important subjects which cannot be adequately handled in night schools on account of the necessary lack of laboratory facilities. It is hoped that within a few years this extension service can be expanded to reach most of the important mining centers of Ohio.

The rapid development of mechanization in mining in the last five years and the changes in mining methods made necessary thereby have made it exceedingly difficult to adequately present the subject (Methods of Mining) to our students. The material is not yet, to any great extent, in the textbooks and to read the mass of current literature necessary to understand the new development takes more time than is available to students.

In order to meet this problem the department has, during the past year, had a number of lantern slides made showing some of the new phases of mining and has used them quite extensively in the classroom. The results this year seem to indicate that this method of presentation is gratifyingly successful.

The field work carried on by H. E. Nold in connection with Engineering Experiment Station Project No. 63 "Clay Mining in Ohio" was completed shortly before October 1, 1927. As a result of this work H. E. Nold presented a paper entitled "A Study of Underground Clay Mining" at the annual meeting of the American Ceramic Society at Atlantic City in February, 1928. A portion of the data accumulated from the field work has been published in the form of a preliminary report as Engineering Experiment Station Circular No. 14, entitled *Clay Mining and Manufacture in Ohio, a Technical Survey*. This circular was compiled by Professors G. A. Bole and H. E. Nold, who cooperated in the field work of Engineering Experiment Station Projects No. 61 and No. 63. The material for the final report to be published as a bulletin of the Engineering Experiment Station is now being compiled and should be ready for publication soon.

There has been no change in the teaching personnel of the Department of Mine Engineering. A few changes in courses within the department have been made. These are all of a minor nature and were made for better efficiency in teaching.

The formation of the School of Mineral Industries, including the Department of Ceramics, Metallurgy, Mine Engineering and Mineralogy is an important development in the past year. It is felt that this will enable the departments concerned to cooperate more closely to the end that both faculty and students will be distinctly benefited.

Recently, as a fitting recognition of his long years of faithful and effective service, F. A. Ray, former Professor of Mine Engineering and Head of the Department and more recently Consulting Director of the School of Mines, has been made Emeritus Professor of Mine Engineering.

The Department of Mine Engineering feels that it has been distinctly benefited by the fact that the Ohio Section of the American Institute of Mining and Metallurgical Engineers held a one-day session on the campus on Saturday, April 21st. At this meeting a number of papers were presented, all on the general subject of mechanization in mining and the changes in mining made necessary thereby. This meeting had a distinct educational value to the students and was an inspiration to faculty members.

Professor H. E. Nold has been devoting all the time available to Engineering Experiment Station Project No. 63, "Clay Mining in Ohio." He expects to follow up this work at least one more year. Professor E. V. O'Rourke has continued his studies of new processes for increasing recovery from oil sands.

The Department of Mine Engineering has entirely too much obsolete equipment. It is planned to replace this with modern up-to-date material just as rapidly as possible. Room No. 2 in the basement of Lord Hall which is now used as a mining ventilation laboratory is not well adapted for this purpose. In order to properly carry on mine ventilation experiments, a long straight open space of not less than sixty feet is needed. The time is not far distant when either Lord Hall will have to be radically overhauled or new quarters provided for the Depart-



ments in the School of Mineral Industries. When that time comes, the Department of Mine Engineering requests that it be consulted regarding the arrangement of quarters, to the end that the space can be more efficiently and effectively used than is now possible in Lord Hall.

#### MINERALOGY

As in 1926-27, there has been a further increased enrollment in the Department, which amounts to 13 per cent. This growth, although gratifying, has made the teaching responsibilities and duties so much heavier that the Department has recommended the appointment of a graduate assistant for next year. The duties of the assistant will include laboratory instruction, problem and mid-term grading, preparation of minerals and thin sections of rocks for laboratory instruction, and also student contact. It is hoped by this addition to the instructional staff to increase the efficiency of personal instruction in the department, and relieve the pressure on some members of the department so that they may continue productive research work, which has suffered somewhat recently because of the increased load.

During the past year extension work outside of the Department included two lectures on crystals to the freshman class in Chemistry and two lecture hours to senior class in Civil Engineering on the Mineralogical Constitution of Portland Cement and resultant changes in the use of this material. A lecture was given in Pittsburgh to the section of the American Ceramic Society on the Use of X-rays in Ceramic Research and a lecture to the Geological Department Seminar, and to the Geological Section of the Ohio Academy of Science on Cyanite Deposits in the Southern Appalachian District.

Professor McCaughey is continuing his research, as much as a busy teaching schedule will permit, on the "Mineralogical constitution of Open Hearth Furnace Slags and Bottoms." This work is in cooperation with the U. S. Bureau of Mines Experiment Station at Pittsburgh, who supply the samples and have them analyzed chemically; and with the Central Alloy Steel Company at Massillon, who contribute in the same manner, and who also furnish the services of one of their research metallurgists. The results of this work will probably be given to the Open Hearth Section of the American Institute of Mining and Metallurgical Engineers. Professor McCaughey is also making examinations of rock dust for Dr. Hayhurst on his study of Silicosis in the employees of the quarries and mills of the Ohio sandstone operators.

Mr. Brant has finished his research on "Mineralogical Changes Taking Place in the Dead Burning of Lime and the Properties of Such Lime". Miss Blair, graduate student, has been working on the equilibrium occurring in ceramic systems, composed of  $K_2O-Al_2O_3-SiO_2$ . This system, although a fundamental one in the porcelain and china industry, has never been worked upon as a three-component system. This work is carried on as a joint fellowship by the Engineering Experiment Station and the U. S. Bureau of Standards. The work will be continued next year, to complete it. Mr. Lu's fellowship on glass refractories, a joint fellowship of the Federal Glass Company and the Findlay Glass Pot Company in the Departments of Ceramic Engineering and Mineralogy, has been completed. This work became almost entirely mineralogical in character, and Mr. Lu did a very fine piece of work, which was praised highly by Mr. Ross of the Findlay Glass Pot Company. In fact, the latter company paid Mr. Lu an honorarium to continue this work, until he left for Chicago to be employed by the U. S. Gypsum Company.

Mr. Richard Barrett, one of the graduate students most promising in research, was compelled on account of poor health and financial difficulties to drop out of school to accept employment as research mineralogist in the Westinghouse Company at East Pittsburgh. Mr. Barrett intends to return to the University when his health and financial condition are better. Mr. Morris of the Wooster Experiment Station (majoring in botany) completed his work on the preparation and the measurement of the optical properties of the hydrazones and ozones of the sugars occurring in plants. He expects to continue this work at Wooster, on the sugars as they occur in plant tissue.

In spite of the additional equipment in microscopic lamps, thin sections of rock and microscopic tables, the Department finds it necessary to give the course in microscopic petrography in several sections. Further laboratory supervision and equipment is needed for this course. The most pressing need of the department is, however, for a furnace with temperature control for research work. One feels embarrassed in research work in equilibrium and in studies of slags and refractories, because of the absence of the proper furnaces. The Department has one gas-fired furnace in which all the work has been done and feels that, so far as the furnace conditions go, the work is only qualitative or quasi-quantitative. It is hoped that this deficiency can be remedied by sufficient appropriation to build a thermostatically controlled electric furnace. It is also hoped that funds will be available for the purchase of additional microscopes and thin sections of rocks to increase quality and efficiency of instruction and microscopic petrography.



The appointment of a graduate assistant in the Department would be of great assistance to the student, raise the quality of instruction by relieving some of the pressure, and give more time for research work and for consultation with graduate students.

### PHYSICS

This year one more instructor was added to the Department of Physics. Dr. R. V. Zumstein was secured for this position. He is a man who has had an excellent training both in teaching and in research. His coming to the Department has enabled us to decrease somewhat the size of our recitation sections, which were too large for effective teaching. During the year, with the aid of our mechanician, Dr. Zumstein has constructed an excellent vacuum spectrograph for work in the extreme ultra-violet. He has assembled the necessary pumps and accessories for producing high vacua and has the technique of this important research now well in hand so that we shall be able to obtain results next year. This set-up of apparatus is a major addition to our equipment.

We also replaced one of our younger men, Mr. Snyder, by Dr. J. B. Green who has an excellent training in teaching and research. He has published one paper during the year, and is giving all the time possible to the construction and assembling of the equipment necessary to continue his work on the Zeeman Effect. When this equipment is fully assembled we shall have opened up another important field for research in physics in our laboratory.

The University was unable to supply out of its funds a sufficient amount of money to purchase all of the apparatus necessary for these two important fields of research. By good fortune, a friend of the University, who insists that his name be withheld, very generously provided about eighteen hundred dollars with which we were able to purchase the additional apparatus needed for this work. This generous gift was a great assistance to us, and without it our research work for the year would have been greatly handicapped.

In the Department of Physics, as in many other departments, attention has been directed to improving our instruction in the beginning courses in physics. This attention has been directed both to the recitation work and to the laboratory work. By decreasing the size of the sections and making increasingly sure that the work from section to section is uniform some definite gains have been made. The new plan of giving work in general physics by means of two lectures per week and two recitations per week in small sections has unified that work and developed a greater interest and better spirit in the course. There can be little doubt but we have made a distinct gain in that case. Attention has also been directed to improving the experiments and introducing experiments which deal with modern physics. Little, however, can be done effectively until more space is available, for the laboratory is so crowded now that there is little opportunity to set up new high grade experiments in it. This condition will, however, be relieved when the Department of English is removed from Mendenhall Laboratory.

A number of important lecturers have been brought to the University during the year because of our interest in their work. At the Educational Conference, Professor Harvey B. Lemon of the Department of Physics, Chicago University, lectured on "Stars and Atoms" and Professor W. T. Bovie, Professor of Biophysics at the Northwestern University Medical School, lectured on "Sunshine and Life." Later we were able to secure Dr. W. F. G. Swann, Director of Bartol Research Foundation, for two lectures,—one technically before the local chapter of Sigma Xi on "The Earth's Magnetism" and the other technically before the Central Ohio Physics Club on "Modern Theories of the Atom." With the cooperation of the Graduate School Dr. G. Cario of the University of Goettingen was brought here for two lectures—one on "The Auroral Green Line" and the other on "Collisions of the Second Kind". Each of these lecturers brought those interested in physics some new message concerning some branch of modern physics.

Professor Blake has been acting as a member of the Council of the American Physical Society and in this position has had an opportunity to have a hand in the shaping of the policies of that society. The Chairman of the Department was asked to represent the American Physical Society at the International Soil Congress held in Washington last summer.

The pressing needs of the Department have been presented at length in our biennium requests in connection with the budget. The most urgent need is additional space for our laboratories both for teaching and for research. This space will be available when the Department of English is housed outside of Mendenhall Laboratory. Just as soon as this change is made, it is imperative that funds be available to transform these rooms which have been used for offices or recitation rooms into rooms suitable for laboratory work in physics. Funds to take care of this transformation have been requested in the next biennium budget. When the Department of Physics comes into possession of these additional rooms, it will be necessary to provide for additional apparatus and equipment for both teaching and research, if the space is to be of any great value in our work. For this reason, we have asked that an item be in-



serted in the budget for the year 1930-31 taking care of special needs for apparatus and equipment, when we are allowed to expand into the space now occupied by the Department of English.

There is a fine spirit in the Department both with respect to teaching and cooperation and every member seems anxious to improve the work of the Department in every particular. The graduate work and research work are growing nicely. More advanced degrees are given each year and more research work is in progress now than ever before.

#### ENGINEERING EXPERIMENT STATION

The Advisory Council of the Engineering Experiment Station for the year 1927-28 consisted of the following members:

E. A. Hitchcock, Director  
 D. J. Demorest, Metallurgical Engineering  
 F. W. Marquis, Mechanical Engineering  
 Alpheus W. Smith, Physics  
 C. T. Morris, Civil Engineering  
 A. S. Watts, Ceramic Engineering  
 J. R. Withrow, Chemical Engineering

The increased legislative and university support enabled the Engineering Experiment Station largely to expand its activities in aiding people of Ohio in solving their technical problems.

During the year the following eight bulletins and one circular were published and distributed. Bulletin 34, *Effect of Stratification of Furnace Gases on Steam Boiler Losses*, by F. W. Marquis, Paul Bucher, and H. M. Faust.

Bulletin 35, *A Symposium on Lime*, James R. Withrow, Chairman.

Bulletin 36, *The Polarized Alternating-Current Electro-Magnet*, by Alva W. Smith.

Bulletin 37, *Guniting and Concrete Encasement to Increase the Strength of Structural Steel*, by C. T. Morris and J. R. Shank.

Bulletin 38, *The Heat Required to Fire Ceramic Bodies*, by A. E. MacGee and H. E. Simpson.

Bulletin 39, *Highway Subsoil Investigation in Ohio, Preliminary Report*, by F. H. Eno.

Bulletin 40, *Dead Load Stresses in the Columns of a Tall Building*, by C. T. Morris.

Bulletin 41, *Transmissive Power and Stretch of Belting*, by C. A. Norman and G. N. Moffat.

Circular 14, *Clay Mining and Manufacture in Ohio*, a Technical Survey, by G. A. Bole and H. E. Nold.

In March, 1928, a monthly *Activities Bulletin* was started to provide members of the staff of the College of Engineering with news of work which is being done at the Engineering Experiment Station. The *Activities Bulletin* has appeared in mimeographed form, 300 copies to the issue. It is hoped that this little magazine may later be sent to Ohio manufacturers who can and should benefit by the maintenance of an engineering experiment station at the University.

Director H. B. Shaw of the North Carolina Engineering Experiment Station has written the following praise of this paper: "Your *Activities Bulletin* appeals to me as a most laudable venture destined to do much good for engineering research and its use. The statement of publications from other stations is particularly timely and valuable."

With the cooperation of Director R. C. Higgy of Station WEAO, weekly talks about the work of the Engineering Experiment Station were begun in May. These talks are given by members of the Station staff and concern the research now going on with particular reference to its application to Ohio industry. Plans are being made for an expansion of this series next fall.

Professor F. H. Eno was signally honored in December, 1927, by being chosen chairman of the executive committee of the Highway Research Board, Division of Engineering and Industrial Research of the National Research Council.

To interest and stimulate members of the Station Staff and other members of the faculty who might care to attend, a series of research workers' meetings was begun in February, when Professor Eno described the purposes and methods of his investigation of the bearing power of soils. In March Prof. G. A. Bole led the discussion of the ceramic industries of Ohio and the assistance which the Station can render them. Early in May, Professor C. E. Sherman and Mr. Lasley Lee described the gauging of stream flow in Ohio. The research workers' meetings were discontinued for the summer, but will be resumed next fall.

During the year work was continued on the following projects:

##### 1. *Ohio Stream Flow.*

Professor Sherman, in charge of this project, is also inspector of the Ohio Cooperative Topographic Survey which has been active in gauging Ohio streams.

17. *Ohio Soil Survey.*

Preliminary report issued as Bulletin 39.

27. *Chemical Study of Commercial Limes.*

Bulletin 35 issued.

29. *Economical Use of Coal in Different Types of Boiler Furnaces.*

Project completed by publication of Bulletin 35.

35. *Slippage of Belting.*

Bulletin 41 issued. Work to continue.

46. *X-ray Analysis of Alloy Steels.*50. *The Heat Required to Fire Ceramic Bodies.*

Project completed by publication of Bulletin 38.

53. *Plasticity of Concrete.*57. *Daylight Illumination in Tall Buildings.*

This material will soon be ready for publication.

59. *Composite Steel and Concrete Members.*

Project completed by publication of Bulletin 37.

60. *Vibration of Crank Shafts.*

The results will shortly be issued as Bulletin 43.

61 and 63. *Ceramic Industries Investigation.*

Circular 14 issued. Work being continued.

65. *Vitrification Study by X-ray Methods.*66. *Polarized Alternating-Current Electromagnet.*

Project completed by publication of Bulletin 36.

During the year, the following projects were authorized:

67. *Investigation of Ceramic Materials for State Building Code.*

This study is of great importance to manufacturers, to builders and owners, and to the State Board of Building Standards. To assist in this work, the Hollow Building Tile Association has cooperated with the Engineering Experiment Station by paying the cost of constructing a fire-test furnace in the Station building. In this furnace, sections of wall ten feet square can be subjected to intense heat followed by application of a stream of water from a fire hose. This research can be used in making insurance ratings, and also in studies looking toward the production of building materials having increased resistance to fire.

Mention should be made of the cooperation of the Hollow Building Tile Association in paying a portion of the salary of the investigator in this project.

68. *Artificial Vitrification Agents for White Ware.*69. *Use of Electrolytes in Clay Slips.*70. *Glass Tank Block Corrosion.*

Report in printer's hands.

71. *Vertical Retort Tests of the White Process of Carbonization.*72. *Load and Stress Distribution in Tall Building Frames.*

Bulletin 40 issued. Work to continue next year as a fellowship donated by the American Institute of Steel Construction.

73. *Investigation of Drain Tile in Ohio.*74. *A Study of Checker Brick in the Steel Industry.*75. *Methods of Curing Concrete Pavements.*76. *The Design of Armatures for Small Direct-Current Motors.*

Now in press, to be issued as Bulletin 42.

77. *Transmission Lines for High Frequency Supply.*78. *Publication of a circular on home owning.*79. *Electrical Porcelain Investigation.*

Fellowship established by the Electrical Porcelain Manufacturers' Association.

80. *A Study of Liquid Flow in Pipes.*81. *Physical Tests of Clay.*

The clays at the Roseville brick plant are being studied in order that their properties and best ways of using them may be known. This investigation may be extended so that a "standard" clay may be established for the making of sewer pipe and other products.

The fellowship plan is a very satisfactory method of using the facilities of the Station. It has become customary for the Station to cooperate with the Columbus branch of the U. S. Bureau of Standards in maintaining annually three fellowships for investigation of ceramic problems. In addition, the fellowship plan enables industries to cooperate in research. During the year two such fellowships were maintained by industries, and three have already been arranged for 1928-1929.

The experimental clay products plant at Roseville has been practically completed and equipped, and is already rendering technical assistance to the heavy clay products and re-



fractories manufacturers of Ohio. The peculiar advantage of this plant is the fact that in it both laboratory and full-size investigations can be conducted; and, in addition, as soon as the Ohio Welfare Department's brick plant is completed, full commercial tests of processes and materials can be made. As more contacts are established with Ohio industries, this plant will become increasingly useful.

#### PERSONNEL

Important additions were made to the Station's staff at the beginning of the year. Harry D. Foster, who for seven years was Research Associate in the Bureau of Standards at Washington, D. C., came to the staff as research engineer of senior grade. His entire time is devoted to research work on ceramic products. Mr. Foster's connection with the Station has been largely due to the cooperation of the Hollow Building Tile Association. Mr. Edward L. Harcourt, a ceramic engineer of the Class of 1926, supervised the construction of the Roseville Experimental Plant and is now in active charge of its operation. To his staff was added Mr. Otis J. Everhart, who graduated in Ceramic Engineering in the Spring of 1928. Mr. John M. Weed, a graduate of the Department of Civil Engineering of this University, and at one time instructor of English in the College of Arts, was also added to the staff of the Station as assistant to the Director. Mr. Weed, who is also Secretary to the Council, has proven to be a very valuable member of the Station's staff. The exceptional record made by the Station during the year in bulletin publications is largely due to his initiative and activity. The *Activities Bulletin* and the Radio Talks referred to above are activities for which he is responsible. The Director appreciates greatly his conscientiousness and enthusiasm.

#### PRESSING NEEDS OF STATION

The Engineering Experiment Station was established in 1913 by an act of the General Assembly, but made very little progress up to 1919 because it received no direct appropriations. The bulletins published up to that time resulted from the intense enthusiasm and great interest in engineering research on the part of many members of our faculty. During the past eight years the advance has been a healthy one, but at the same time, it has been throttled by insufficient appropriations resulting in a very small research staff, a condition which was remedied somewhat the past year by greater appropriations. The beneficial result which we are bound to obtain from four investigations only will result in savings and returns to the State of Ohio many times in excess of the total of all appropriations made up to the present time. These particular activities are:

*Classification of Ohio Coals*, by Professor D. J. Demorest

*Highway Subsoil Investigation in Ohio*, by Professor Eno

*Gunite and Concrete Encasement to Increase Strength of Structural Steel*, by Professors Clyde T. Morris and J. R. Shank.

*The Establishment of the Experimental Clay Products Plant at Roseville in cooperation with the State Welfare Department.*

The greatest need, therefore, of the Station is much larger appropriations in order that its services may be extended to a much larger number of fields of industry than it has been able to do in the past.

Respectfully submitted,

E. A. HITCHCOCK,

Dean of College and Director of Experiment Station.

## COLLEGE OF LIBERAL ARTS

*Acting Dean, WILBUR H. SIEBERT*

### THE ENROLLMENT

The enrollment of the college for each of the four quarters, together with the voluntary withdrawals during the several quarters, was as follows:

Quarter	Summer	Autumn	Winter	Spring
Arts .....	364	2731	2208	2010
Arts-Education .....	39	105	98	107
Total .....	403	2476	2306	2117
Withdrawals—Men .....	8	45	43	26
Withdrawals—Women .....	5	20	20	16
Total .....	13	65	63	42

A comparison of these figures with those of the preceding year shows a loss of 38 in the Summer Quarter of 1927, and substantial gains throughout the rest of the year 1927-28; namely, 276 in the Autumn Quarter, 355 in the Winter Quarter, and 360 in the Spring Quarter.

### HIGH SCHOLARSHIP

The annual honor list, published in October, 1927, gave a total of 79 persons who had won the honor distinction. Of these 45 were men and 34 women. The names added at the subsequent convocations were 27 in number, making a total of 106, the total for the previous year being 91.

The Convocation Honors were distributed as follows:

Summer	Autumn	Winter	Spring	Total
4	1	0	22	27

### DEGREES

The total number graduating from the College during the year was 317, distributed as follows:

Degree	Summer	Autumn	Winter	Spring	Total
B.A. ....	54	21	31	195	301
B.Sc. ....	0	0	0	16	16
Totals .....	54	21	31	211	317

### POOR SCHOLARSHIP

The number placed on probation, or dismissed for continued poor scholarship, is shown in the following table:

End of Quarter	Summer	Autumn	Winter	Spring	Total
Probation—Men .....	17	228	114	130	489
Probation—Women .....	6	60	30	39	135
Totals .....	23	288	144	169	624
Dismissed—Men .....	2	36	68	37	143
Dismissed—Women .....	2	3	21	10	36
Totals .....	4	39	89	47	179
Dismissed, 9-Quarter Rule					
Men .....	0	10	4	7	21
Women .....	0	2	0	4	6
Totals .....	0	12	4	11	27



## THE COLLEGE ADMINISTRATION

The aim of the college office has been to be helpful to the students, without lowering the standards of scholarship. The administrative work for the Executive Committee and the Faculty has been well prepared in advance by the Secretary, Mr. J. C. Troutman, and has been transacted promptly. A full-time stenographer has been added to the office staff, and our three stenographers are kept busy with the clerical work involved in carrying on the correspondence, keeping and filing records, etc. Miss Mary Collicott has proved to be an efficient Assistant to the Dean, and it is a matter of regret to all connected with the office that she has resigned to accept a position in the Dalton School in New York City. Her successor, Miss Roberta Abernethy, a graduate of the University, who has received secretarial training at Simmons College, Boston, and has had valuable practical experience during the past year, possesses the personal qualities needed for the position and will take up her work on August first.

Meantime, by the recent action of the President and the Board of Trustees, two important appointments have been made in the College office, namely, a new Dean in the person of Professor W. J. Shepard of Brookings Institute, Washington, D. C., formerly connected with the Department of Political Science of this University, and a Junior Dean in the person of Mr. J. C. Troutman, who clearly deserves this promotion on his efficient service as Secretary. It is hoped that a new Secretary of the requisite qualities may soon be found, and efforts are being made to that end.

This increase in the administrative staff will make possible to a certain extent the giving of more attention to those students who need it and give promise of scholastic success, and a closer and more sustained study of Arts-College problems. The following up of promising students who are in difficulties which they could be helped out of would result, it is thought, in the "salvaging" of 20 per cent of those who now drop out of college. Articles and books which deal with these problems have been appearing, and experiments of more or less value have been tried in other universities, especially at Minnesota, which are deserving of more attention than has hitherto been given them on account of the present regular demands upon the time and strength of the administrative officers of the College.

## THE NEW LANGUAGE BUILDING

Since May, 1922, there has been much discussion in the Arts Faculty of the need of better accommodations for the Departments of Liberal Arts. On the completion of the Education Building some of the Departments in University Hall were given more rooms and offices, which they greatly needed. It is now expected that the new Chemistry Building will be completed and occupied in full by next Autumn. Plans have already been made and approved in conference with Departments and the Acting Dean for greatly enlarging and refinishing the present Chemistry Building for the use of the English and Foreign Language Departments. This will give them the required number of larger and smaller recitation rooms and some thirty-five offices, together with practice and experimental laboratories in Phonetics. For some time the Language Departments have been scattered in various buildings and many of their classes have been widely separated, despite their common interests and needs. This situation has been unavoidable but certainly not desirable. It has been proposed that the addition to the old Chemistry Building be erected at



once and occupied say by the Department of English, and the work of remodeling the rest of the building follow as soon as may be. Needless to say, the housing of these Departments together will be a great benefit to them and will be to the advantage of all the Colleges and the Graduate School.

#### IMPROVED TEACHING FOR FRESHMEN

Last autumn nearly 2500 freshmen of the Arts College were inducted into the University through the instructive exercises of our first Freshman Week. Perhaps these opening days were a little too crowded for all the freshmen to derive the full benefit from them. This has been the testimony of a number of the first-year students. Nevertheless, it is certain that Freshman Week supplied much valuable information and was helpful in many ways to those for whom it was intended.

During the past year the President of the University has wisely emphasized the need of improved teaching of the undergraduates, recognizing the difficulties that have arisen on account of the large classes in many of the departments. In some departments for a few years past the limit was reached before the registration of students was completed, and freshmen who had not been able to register early but were expected to meet their group requirements, were precluded from doing so because classes were already full. This made it necessary to assign them to classes in less crowded departments, without proper regard for their curriculum program. These difficulties arose, of course, from the insufficient number of teachers and the lack of classrooms, laboratories and laboratory equipment. It is gratifying to report that wherever possible the University Administration has provided for the additional teachers and equipment needed, and has urged the appointment of only well qualified and experienced teachers. The effort has also been made to have departments provide systematic supervision of their younger instructors who were in charge of freshman and sophomore sections.

For some years Professor E. L. Beck has been the director of all sections of English 401, and in a similar manner Professor E. W. Wiley is to be the director of all courses in Public Speaking, while Mr. Herman A. Miller, Instructor in the English Department, is to supervise student dramatic organizations. In History Mr. E. H. Roseboom has had general charge of all sections in American History 401 and 402, and Assistant Professor A. H. Noyes of all sections in European History 401 and 402. The experiment of teaching two large sections of about two hundred students each, one in European History and the other in American, by the lecture method, these sections being broken up into small groups to be questioned and led in discussion by picked assistants, has worked well. It is a method long employed in other large universities, but requires capable lecturers and alert assistants. Professor Carl Wittke conducted the class in American History and Professor George A. Washburne that in European History.

In Geology Professor P. B. Stockdale is to exercise supervision over all of the freshman classes. The sections in this Department are kept of moderate size, and every member of the departmental staff teaches his share of the freshman sections. In German, the year just closed has witnessed an increased enrollment and this increase is likely to continue, because the teaching of this important language has been revived in the high schools of the larger cities of Ohio, with one exception. Even in the case of this city German will again be taught next year. Freshmen will therefore be entering the University next



autumn who have had two years of high-school German, and we may look for an increased enrollment in course 403. Five sections of freshmen in this Department had forty or more students during the past year, including one with fifty-five. Sections in language, of this size, do an injustice both to the instructor and the student. This condition has been remedied by the appointment of two new teachers for next year. In Romance Languages Associate Professor G. O. Russell has had general supervision of all freshman sections in Spanish and by student use of the dictaphone in the Phonetics practice laboratory has improved the methods of language teaching. He has also introduced objective tests covering the student's ability to understand the spoken language, his ability to read, and his reading and speaking vocabulary — three of the most fundamental ability aims in the acquisition of a modern language. These tests are given each quarter and the score of each student is computed, as is also the average of the section. Thus the progress of each student and of his section can be measured by the comparison of the scores and averages for successive quarters. The teacher has the advantage of knowing the standing of his class at different stages of instruction and the success of his own teaching in comparison with that of other members of the staff.

An effort has been made to add to the Department a professor who shall have general charge of the freshman sections in French; thus far no properly qualified person has been found to be available.

In Astronomy it is proposed to introduce laboratory work to a much larger extent next year than heretofore for students taking the introductory courses (401 and 402). Whether or not this can be done will depend upon the departmental budget for equipment. During recent years the Department has reduced its offerings of courses in the "600" group and has revised several other courses in this group. It aims to increase its enrollment in these advanced courses.

A new and valuable feature in the Department of Geology, already partly equipped during the current year, is the Sedimentation Laboratory, which makes possible the study of the origin of sedimentary rocks, clays, sands and gravels. During the past two years only, have courses in Sedimentation been offered in this University. This subject is one in which much has been done during the past ten years in universities, east and west, by the United States Geological Survey and the geological surveys of the western states. It is one also in which the National Research Council has been stimulating interest during the past few years, through its sub-committee of Geography and Geology. Thus far the equipment of our Sedimentation Laboratory is all too meager. Much remains to be done in the way of fitting out this laboratory and putting it on a plane with similar laboratories in this country.

#### RESIGNATIONS AND APPOINTMENTS

After serving the University well and faithfully during a period of forty-three years as an able teacher of History, as Dean of the College of Law for two years, and Dean of the College of Education for six years, Professor George W. Knight has resigned from his professorship and been made Professor Emeritus of History. His many pupils of former years and his colleagues need not be told that he has earned his retirement while his health is still good and his faculties unimpaired. They will hope that he may continue to enjoy life and the deserved leisure that has come to him.



The Department of German has suffered serious loss by the resignation of Assistant Professor Ernest Feise, who accepted a call to Johns Hopkins University, and Professor Traugott Böhme, who made many friends during his brief stay among us. Both of these gentlemen were skilled teachers and learned scholars, as well as choice companions.

A considerable number of younger teachers of excellent promise and performance have been promoted to the rank of Assistant Professor or Associate Professor, those receiving the latter title being six in number. The wisdom of reviving this title can scarcely be doubted. The staff of the Department of Romance Languages has been strengthened by the appointment of Assistant Professor Alenxander H. Schutz. Dr. Harvey Walker of the University of Minnesota will become an Assistant Professor of our Department of Political Science and give courses in Municipal Government.

The list of those who received substantial promotions in rank and salary is long and will not be given. Suffice it to say that their records were carefully considered and that they were found to measure up to the new standards for promotion that have been adopted by the Administrative Council.

#### LEAVES OF ABSENCE

Professor M. B. Evans is absent on leave for a year in Europe, engaged in research at present in Lucerne, Switzerland, on manuscripts of certain mystery plays for the purpose of establishing a standard text. Professor A. C. Cole of the Department of History has been given leave of absence for next year to serve as visiting Professor of History at the University of Wisconsin. His place will be temporarily taken by Professor Charles M. Ambler, from the University of West Virginia, under the title of Acting Professor of History. Assistant Professor Paul H. Clyde, also of our History Department, will conduct classes in the History of the Far East at Leland Stanford University, California, a year's leave of absence having been granted him for that purpose. The courses of Dr. Clyde will be conducted in his absence by Dr. B. F. Nordman, who has been temporarily called here.

#### THE DIFFERENTIATION OF THE JUNIOR AND SENIOR DIVISIONS OF THE COLLEGE

On February 16, 1928, the University Faculty adopted a recommendation of the Central Committee on the Freshman Problem that the larger colleges, including the College of Liberal Arts, consider the plan of organization on the basis of Senior and Junior Divisions within these colleges, and that they also consider the advisability of adopting a selective principle of admission into their Senior Divisions.

On May 23, 1928, the Liberal Arts Faculty adopted the first report of a committee appointed to consider these recommendations, namely, to require a point ratio of 1.9 for admission to the Junior Division and to petition the University Faculty for permission to apply this requirement in place of that now provided by Faculty Rule No. 268.

It was further voted to increase the requirements for graduation in the Senior Division by raising the point ratio for graduation to 2.2 and to petition the University Faculty for permission to apply this requirement in place of that now provided by Faculty Rule No. 160.

In order to mark more sharply the distinction between the work of the Senior and of the Junior Divisions, the Faculty decided also to require a



reasonable proportion of distinctively Senior Division courses of all candidates for the A.B. degree. An examination of the courses pursued by Senior Division students at the present time revealed the fact that many of them elect but few Senior Division courses; the average student shows only about 18 per cent of such courses. It was decided that candidates for the A.B. degree should hereafter be required to present 60 hours of credit in courses offered for advanced undergraduates or graduate students.

A committee of the Faculty has been engaged in making a thorough analysis of the Junior Division courses offered by the College with a view to carrying through, so far as possible, the distinction between Senior Division and Junior Division courses. At the present time many courses listed in the Junior Division are largely elected by Senior Division students. A considerable adjustment will be required to bring about a substantial separation of the two kinds of courses.

#### EXTENSION TEACHING

The members of the Executive Committee of the College have carefully considered the arrangements at several representative universities for extension teaching, and are prepared to recommend to the President and Board of Trustees that provision be made in the near future for a Division of Extension Teaching in the College of Liberal Arts, or in which this College shall have a part.

#### ACTIVITIES OF THE FACULTY

Much important committee work has engaged the attention of numerous members of the Arts College Faculty during the past year. Some of the staff have been occupied with researches and some with the preparation of textbooks. The titles of their publications will appear in a forthcoming bulletin of the University. Certain members of the staff have responded to invitations from organizations in this and neighboring states to give lectures and addresses on scholarly subjects.

#### CONCLUSION

In conclusion I wish to thank the Administration of the University and the Faculty of the College for their generous consideration and support during the past year.

## COLLEGE OF MEDICINE

*Dean, J. H. J. UPHAM*

### ENROLLMENT

During the year there were enrolled in the College of Medicine 328 students, as follows: 85 seniors, 73 juniors, 70 sophomores and 100 freshmen. Of these, 308 were men and 20 women. During the year 78 received the degree of Doctor of Medicine. Eighteen were dropped from the roll of the freshman class during the year, for illness or other reasons, and 6 because of lack of ability to meet the requirements.

The great number of applications to enter the freshman class necessitated the restriction of consideration of applicants to Ohio students alone and the selecting of one hundred of those showing the best credentials. Of these 49 had college degrees, 32 had 3 years of college work, and the remainder two years. I believe the large number of applications speaks well for the growing reputation of the College and the character of medical teaching given. A crowded condition exists at the present time and emphasizes the necessity of the early completion of Hamilton Hall and C Wing of the Hospital so as to more nearly meet the demands of students of Ohio desiring to enter the College of Medicine.

The Faculty of the College of Medicine deeply appreciates the cordial cooperation of the Entrance Board in its careful consideration and scrutiny of the character of the premedical scholarship of applicants, and the care given to the selection of those admitted to the freshman class.

### FACULTY CHANGES

In the death of Dr. Joseph W. Leist, the College of Medicine lost an efficient and faithful member. His duties were assumed by a rearrangement of other teachers, so that it was not necessary to appoint a direct successor.

Dr. L. B. Nice was appointed to a Professorship in Physiology to succeed Dr. R. G. Hoskins, resigned. Dr. Nice has not only proven himself an excellent addition to the Faculty and an efficient teacher, but he also offers considerable promise in the field of original research.

Dr. E. J. Gordon was appointed to the Chairmanship of the Department of Medicine, adding still more to his already heavy burden as Director of the State Street Dispensary and Professor of Medicine. He has shown earnest and hearty cooperation and excellent administrative ability.

Dr. Sol. A. Hatfield resigned as Superintendent of the Starling-Loving University Hospital to enter private practice but retains his teaching position in the Department of Medicine. Mr. Charles E. Findlay was appointed, first, Acting Superintendent, and recently, Superintendent, to succeed Dr. Hatfield. He has proven himself earnest, enthusiastic, and an excellent administrator. With the efficient assistance of Mr. Charles E. Kuntz of the Administrative Department, the bookkeeping system was entirely reorganized and the charge accounts and collecting system revised, with the result that the Hospital is now being conducted much more efficiently and economically and is in a better financial situation than ever before.



Dr. Charles S. Hamilton desiring to be relieved of all administrative work, Dr. Verne A. Dodd was appointed Chairman of the Department of Surgery and has functioned most efficiently.

Dr. Herbert M. Platter was appointed as Lecturer on Legal Medicine and gave this course during the Spring Quarter in an eminently satisfactory manner. Dr. Platter has been for a number of years Secretary of the State Medical Board and is unusually qualified for the position.

Several minor changes have been made in the various departments, appointments to fill vacancies due to resignations and assistants appointed as the necessity arose to increase the personnel.

It is sincerely to be hoped that outstanding workers in research, especially in Medicine and Surgery, may be secured in the near future. It would greatly facilitate the securing of such if the recommended additions to the physical plant were assured.

#### TEACHING

Every effort has been made during the past year to closely supervise and improve where necessary the various teaching courses, so as to conform to the best standards of the day. Students have been kept under closer observation and the results have been very gratifying. The amount and variety of practical instruction made possible by the clinical material available in Starling-Loving Hospital, St. Francis Hospital, the Children's Hospital, the Isolation Hospital, the State Street Dispensary, and the Out-Patient Obstetric Service has been thus far very satisfactory, but even these resources must be extended if the classes continue to increase as present appearances indicate.

#### RESEARCH

A very gratifying amount of research work has been accomplished, as indicated in the accompanying departmental reports. The teaching burden, however, and the present cramped quarters have necessarily limited the quantity produced during the past year.

#### MEDICAL SHOP

The operation of the medical shop has been reorganized to conform to its original intention of repairing the equipment of the technical apparatus used in teaching. A detailed report accompanies this report, and shows the efficient management and the excellent service rendered.

#### ORTHOPEDIC SHOP

The orthopedic shop has been removed to new quarters in the Hospital, in order to be more available for the fitting of patients and for more efficient control. Its work has been greatly extended and, as shown by the accompanying report, it is helping to fill a very decided need in the community.

#### THE SCHOOL OF NURSING

For several years there has been present a rather anomalous condition of giving in the University a course of instruction to young women, certifying them as nurses, but withholding from them any University credits.

This year the curriculum of the School of Nursing has been completely revised and reorganized so as to conform to the University requirements.

Should it meet the final approval of the Board of Trustees, the school of nursing may in the future offer full University credit and standing to student nurses who successfully fulfill the requirements.

In closing, the present Dean cannot refrain from expressing his sincere and earnest appreciation of the hearty cooperation he has received from every member of The Faculty, from the Administrative Departments, the Maintenance Department, and the Hospital officials and attachés.

## DEPARTMENT OF ANATOMY

F. L. LANDACRE, *Chairman*

### TEACHING STAFF

The situation in the Department of Anatomy for reasons previously submitted to you and to the President concerning the overload has been relieved somewhat by the granting of two full-time assistants and will be further relieved by an additional assistant, instead of more student assistants, as agreed to verbally by the President. The load is still so heavy that it is difficult for the staff interested in research to accomplish a reasonable amount of scientific investigation, but the situation is much better this year than in previous years. Securing Mr. Setterfield, who has had long experience in Zoology and has unusual ability as a teacher, adds to our staff a very popular and efficient instructor.

### TECHNICIAN

Aside from the relief in the teaching load, the Department is seriously in need of a full-time technician whose time would be employed in the preparation of microscopic slides. The department exercises extreme care in the preservation of microscopic material but is unable to prevent the loss of some slides, which in certain cases, particularly in Embryology and Neurology, frequently involves the preparation of a totally new series. At present almost the whole staff except Dr. Buck and Dr. Britt put in their spare time in preparing microscopic preparations for the various courses. This could be done by a properly trained technician and would relieve the teaching staff of a troublesome and time-consuming task.

### RESEARCH

During the past year there have been published by the Department one monograph by Dr. Knouff and four papers by Dr. Baker. The chairman has one paper ready to send to the printer and the second longer paper is well toward completion. Along with scientific publications the Department is steadily building up a series of well-thought-out laboratory guides for a number of courses. The preparation of these laboratory guides has been forced on the teaching staff by the nature of the teaching load. In addition to making it possible for assistants to learn more easily and efficiently the content and nature of the course, they serve the purpose of increasing the value of the course to the student. Such guides require experience on the part of the teacher and a thorough familiarity and understanding of the preparation of the students for whom they are written.



## FINAL

Barring unexpected and unpredictable increases in class enrollment the Department ought during the coming year to find its load of teaching better adjusted to the size of the staff.

## DEPARTMENT OF BACTERIOLOGY

CHAS. B. MORREY, *Chairman*

Detailed statistics of the Department are on file in the office of the Assistant to the President. I wish to call your attention especially to the following summary of students for the year arranged by Colleges in order of percentage of registration:

	Number of Students	Per cent
*1. Medicine .....	194	26.90
*2. Agriculture .....	117	16.23
3. Arts .....	106	14.70
4. Graduate .....	79	10.96
*5. Pharmacy .....	72	9.99
*6. Veterinary Med.....	69	9.57
*7. Dentistry .....	49	6.80
*8. Education .....	31	4.30
*9. Engineering .....	4	.55
Totals .....	720	100.00

The work is required in some four-year courses in those marked \*. All except three Colleges and The Graduate School require Bacteriology.

During the year we have had two new Instructors. Miss Tracy will probably stay during 1928-29 only, although she has been very satisfactory in her work. Owing to the large number of women in the Department, I deem it good policy to have one woman instructor.

Mr. Helz specializes in Soil and Dairy Bacteriology. I believe that I have found an excellent man for this work. I hope to keep him and to advance him in rank and salary as rapidly as possible. The older members of the Department have voluntarily expressed themselves as quite favorably impressed with Mr. Helz.

Professor Starin has been devoting all his free time for several years to the study of the botulinus bacillus, both at the University of Chicago and here. Several of his papers have appeared in the *Journal of Infectious Diseases*. Dr. Jordan wished him to return to Chicago during his leaves of absence for 1928 and 1929. Professor Starin wisely decided not to do any bacteriological work during these free periods.

Assistant Professor Speer devotes his time primarily to Veterinary phases of the subject. During the past year he has paid particular attention to *contagious abortion* in the University herd. He has done the necessary

testing to help in weeding out the disease. Two large incubator manufacturers of the State gave money for research in *white diarrhea* of chicks, with special reference to its spread through incubators and its control from this source. The Board of Trustees appointed Dr. Speer Research Fellow to have charge of the bacteriological phases of the subject during his quarter's leave in 1927-28 and 1928-29.

In my "natural gas cylinder," donated by The Graduate Council for research in this and related topics, there is at this date (June 28, 1928) a pressure of 400 pounds per square inch and it is still rising slowly. I have been for the past two years carrying on some promising work on bacterial endotoxins and antiendotoxins. I had 11 advanced and graduate students on the problem this Spring Quarter. Two graduate students will continue the work this summer. Results to date give promise of something new and valuable.

The Department is without a clerk or stenographer. This is a great drain on the time of all members of the force. The time loss here would more than pay the salary of the position. However, I am not making this specific request this year but will wait until our chief need is supplied namely, *quarters*. Separate sheets with regard to a new building are a part of this report.

#### NEW BUILDING

Bacteriology is now required in seven colleges of the University and is elected in two others. Only three of the colleges and the Graduate School do not require it. *It is required in four-year courses in more colleges of the University than any other subject.* Students in any one of these colleges are entitled to as good facilities as students in any other. The number of students in several colleges is now limited by lack of facilities, among these bacteriological.

All lecture-rooms and classrooms are shared with the Department of Veterinary Medicine, an inconvenience to both departments.

Bacteriology now has a total of 242 lockers, some of which are in halls and closets and too small for the equipment used. The working space in all the laboratories together was designed for 72 students at one time without crowding, or a maximum of 90 with crowding. This deficiency is partly compensated for by sectioning and by repeating in different quarters. For medical, dental, pharmacy, and veterinary students this compensation is practically exhausted so that more working space is imperative if restrictions are to be removed.

Medical classes are at present restricted to approximately 100. There is no logical reason why this number should not be doubled.

Dental restrictions are now 90. The Dental College has already its own accommodations for 250. As soon as other departments, including bacteriology, are ready they can take in 250.

Pharmacy is not up to its maximum, but their numbers impede bacteriology. The same is true of Veterinary Medicine.

Students in Agriculture have a greater need for a knowledge of bacteriology than any other group, yet no special provision is made for their needs.

No facilities are provided for advanced and graduate students, yet the already high percentage (10.96 per cent) of such students is only an indication of what we could do, should a place for such students be forthcoming.



That Ohio State University should be the center for training and research in all scientific lines needs no argument.

Of four of the above-mentioned groups of students the State demands certain attainments through its State examinations that must be passed. It is the business of the State University to provide in colleges already established facilities for acquiring the knowledge and skill to meet these requirements. If State requirements are not met in State Colleges, where should they be?

The State demands through its Commission of Health certain standards of water supply, sewage disposal, stream pollution. Bacteriology is the very foundation of training for those who must enforce such standards. No facilities, especially for water and sewage bacteriology, are provided.

No provision is made for members of the staff to do original work.

I started the Department of Bacteriology and have grown with it. I have made many a makeshift in order to do as much as has been done. I think this attitude is characteristic of Ohio State Graduates at Ohio State. I question whether any bacteriologist of reputation would accept the chairmanship in my place on account of the poor facilities.

The proper way to remove all the above-mentioned objectionable conditions is to provide a building exclusively for Bacteriology. Such a building would comprise very nearly 1,000,000 cu. ft. On the advice of the University Architect based on this figure, I am asking for \$350,000 for such a building. There will be needed for soil bacteriology a greenhouse, for which an additional \$10,000 is asked.

As nearly as I can estimate, the above building will provide for the Department for 10 to 15 years, depending on increase in attendance.

I am ready at any time to appear before the proper body to present this subject in greater detail.

## DEPARTMENT OF MEDICINE

E. J. GORDON, *Chairman*

A review of the activities of the department for the past year fills one with respect and admiration for the enthusiasm, diligence, and whole-hearted support of nearly every member of the department. We have by a slow process been able to eliminate the dead timber, leaving a department that is excellent as a unit.

## ADDITIONS

During the year we added Doctors Lefever, Masters, Martz, and Larcomb. All of these did excellent work. I wish especially to invite attention to Dr. Masters' excellent showing—and that without remuneration; I hope that we shall find it possible to set aside a modest sum for him in the bien-nium, in order to be able to ask for more of his time.

## DIDACTIC TEACHING AND CLINICAL TEACHING

Marked improvement has been made at St. Francis by the addition of Dr. Lefever, who supervises bedside instruction. More laboratory supervision is needed at St. Francis. At the University Hospital the bedside teaching, review of cases, and laboratory supervision is satisfactorily accomplished. The medical section meetings are held regularly, are well attended, and virtually constitute a bi-weekly departmental meeting. Luncheon is followed by journal abstracts or case reports and discussions of departmental business.

The didactic teaching has been done in a satisfactory manner. The instructors have met the classes regularly and promptly. No changes are contemplated.

## RESEARCH

It is impossible for the department as organized at present to carry on original investigations and make contributions to the literature. In order to carry this out properly a subdivision should be organized, consisting of a director, and a number of student assistants, who probably would elect to work on certain problems. Proper housing and equipment and a minimum annual budget of \$10,000 to \$12,000 is required. I hope that in the near future some funds will be available that this may be started, even though in a humble manner.

## DISPENSARY

The medical clinic in the dispensary is the largest one. Due to the inadequate housing, equipment, janitor, clerical and other provisions, the work here cannot be satisfactorily carried on. A new building with proper equipment is urgently needed. New departments recommended in the dispensary are: (a) a laboratory (b) X-Ray Department (c) Nutritional clinic.



## DEPARTMENT OF PATHOLOGY

ERNEST SCOTT, *Chairman*

## STAFF

The Department Staff consists of two individuals of the rank of professor, two of the rank of instructor, one of the rank of assistant, one secretary, and four technical assistants.

## DUTIES

Dr. Ernest Scott, Professor and Chairman of the Department, is responsible for the teaching of the courses in General and Special Pathology and of the elective courses in autopsy technique, research problems, autopsy demonstration, the supervision of surgical pathology of University, St. Francis and Children's hospitals, and the administrative duties of the Department.

Dr. Carl L. Spohr, Professor of Clinical Pathology, is responsible for the teaching of Clinical Pathology and for the clinical laboratory of University, St. Francis and Children's hospitals, and for the Wassermann work from the various clinics and dispensaries connected with the College of Medicine.

Dr. Harry L. Reinhart, Instructor, is assistant in the teaching of courses in General Pathology and autopsy demonstration and in the work in surgical pathology of University, St. Francis and Children's hospitals.

Miss Edith M. Miller, Instructor, is Resident Clinical Pathologist at University Hospital, assistant in the courses in Clinical Pathology, and supervisor of the work of the senior student laboratory sections.

Provision has been made by the Board of Trustees for an assistant, who will have charge of the clinical laboratory of St. Francis part time, the remainder of the time acting as Curator of the Museum.

Description	Course No.	No. of students
Dental pathology.....	450—451	75
Path.—optical students.....	450—451	12
General Pathology, 2nd yr.....	601—602	78
Hosp. Ward Clin., 4th yr.....	601—602—603	81
Clinical Pathology, 3rd yr.....	603—604	73
Adv. Clin. Path., 3rd yr.....	616—617—618	8
Surg. Path., 4th yr.....	605	27
Med. Path., 4th yr.....	606	54
Autopsy technique, 3rd yr.....	608—609—610	10
Minor Research, 3rd yr.....	611—612—613	8
Autopsy demonstration, 3rd and 4th yrs. Each student is required to attend and report at least ten autopsies before graduation.....	607	154

## SPACE

The Department occupies fifteen rooms on the third floor of the Medical Building (Hamilton Hall); these rooms consist of:

- 1 Laboratory teaching room.....40x50'
- 1 Laboratory teaching room.....42x26'

## THE OHIO STATE UNIVERSITY

2 Technique rooms.....	12x18'
3 Offices .....	10x12'
1 Photographic dark room.....	15x18'
1 Storeroom .....	13x18'
1 Museum .....	26x40'
Clinical Pathology:	
1 Laboratory room .....	40x42'
1 Technique room.....	15x20'
1 Sterilizing room.....	12x15'
1 Storeroom .....	10x12'
(Used jointly by Pathology and Clinical Pathology):	
1 Recitation room.....	30x40'

## EQUIPMENT

Aside from the usual equipment such as microtomes, microscopes, incubators, etc., the Department possesses a modern microphotographic camera, and during the present year the Museum has been equipped with eight large steel cases of the most modern "Dustite" design; five of these cases are 16 ft. in length and 2 ft. in width; there are three wall cases, one 12 ft. in length and two 8 ft. in length. The Department is also in possession of a supercentrifuge and a DuNois tensiometer.

## MUSEUM

The Museum already possesses a large number of valuable teaching specimens, some of which are of rare occurrence. With the recent additional space for exhibition and the part time of an assistant for the care of the Museum, we anticipate that it will soon become one of the most valuable parts of the teaching in Pathology, and also will be of service in the departments of Surgery, Medicine, Gynecology, and Obstetrics.

From this Museum an exhibition, illustrating the Pathology of the Kidney, was prepared and, following its demonstration at the meeting of the American Medical Association at Washington, D. C., in May, 1927, it received one of five "Rewards of Merit." A similar exhibition covering diseases of the Cardio-vascular System was prepared this year and presented at the meeting of The American Medical Association at Minneapolis, Minn., June 11 to 16. This also was granted an "Award of Merit with Honorable Mention."

## AUTOPSY SERVICE

The autopsy service of the Department includes University, St. Francis, Children's, and the Columbus State Hospitals. From these hospitals an increasing number of autopsies are being obtained each year. From June 30, 1927 to the present date there have been 224 autopsies; of these each hospital has provided the following:

University .....	75
St. Francis .....	42
Columbus State.....	26
Children's .....	10
Miscellaneous .....	71



These autopsies are all used for the purpose of demonstration, and at most of them students in the special technique course perform the autopsy under supervision, or assist in the demonstration.

### SURGICAL PATHOLOGY

From June 30, 1927, to the present date there have been 1778 surgical specimens examined; 1650 microscopical examinations of this number have also been made. Each hospital supplied the following:

University .....	1240
St. Francis .....	185
Children's .....	18
Miscellaneous .....	335

Under "Miscellaneous" are included those specimens sent to the laboratory from various hospitals from the smaller towns of the State, or sent in by individual physicians, or transferred to this laboratory by the State Department of Health Laboratories. This number indicates the amount of service the laboratory of Pathology is rendering to the individual physicians and smaller hospitals of the State.

In addition to these surgical tissues, there have been approximately 2000 microscopic sections prepared from various post-mortem tissues and some 1500 cabinet sections mounted for class teaching purposes.

### CLINICAL LABORATORY-UNIVERSITY HOSPITAL

The laboratory of Clinical Pathology at University Hospital occupies one room 14x24 ft. and an additional room 20x24 ft., in which the senior medical students of the hospital section do the laboratory work required on their patients.

The laboratory staff consists of Doctor Carl L. Spohr, Director; Miss Edith M. Miller, Resident Pathologist; and Doctor Addie Stanford and Miss Ethel R. Zorn, technical assistants.

The laboratory during the year has made 15,234 examinations of specimens as follows:

Urine—General .....	8006
Culture .....	2
Phenolphthalein .....	746
Mosenthal .....	14
Tuberculosis .....	542
Blood—Counts .....	2815
Culture .....	39
Typing .....	69
Matching .....	48
Coagulation .....	468
Chemical .....	975
Parasites .....	1
Sedimentation .....	299
Sugar tolerance .....	2
Spinal fluid—Chemical .....	89
Bacteriological .....	13

## THE OHIO STATE UNIVERSITY

Sputum—Tuberculosis .....	96
Typing .....	2
Gastric—Single .....	5
Fractional .....	24
Liver function icterus index.....	19
Feces .....	121
Bacteriological—	
Eye .....	87
Ear .....	7
Nose and throat .....	105
Tonsil Culture .....	23
Pus .....	94
Vaginal and Cervical .....	171
Urethral .....	25
Transudates )	
Exudates    ).....	19
Widal .....	30
Vaccines .....	7
Kahn test .....	2
Basal metabolism .....	169

In addition to this the Clinical Laboratory at Hamilton Hall has made, since June 30, 1927, a total of 5,442 examinations of specimens as follows:

Wassermann blood tests .....	4892
Vaginal smears .....	400
Nose and throat cultures .....	94
Miscellaneous .....	56

These specimens are sent to the laboratory from St. Francis, Children's and University Hospital, Crittenden Home, Friends' Rescue Home, and State Street Dispensary.

## BUDGET

The budget of the Department carries, in addition to those directly concerned with the teaching work, the following:

1. One instructor, 90 per cent of whose time is devoted to the work of the Clinical Laboratory in the University Hospital.
2. One technical assistant, whose entire time is given to the Clinical Laboratory of the University Hospital.
3. One technical assistant, 90 per cent of whose time is occupied in making Wassermann tests for the various hospitals and dispensaries connected with the University.
4. One assistant whose time is divided between the St. Francis Hospital and the Museum.
5. One technical assistant, 50 per cent of whose time is devoted to the Surgical Pathology of University Hospital.

The combined salaries of this group amounts to \$5,500, or approximately one-fourth of the Department Budget. I am including this statement in an attempt to clarify the apparent discrepancy between the total Departmental Budget and the number of students actually taught. In other words a large percentage of the work of the Department is extra-curricular.



## RESEARCH

As may be seen from the paragraph covering "Space," in the Department there are no rooms that may be set aside or utilized for special problems on definite research work of any sort; yet, in spite of the crowded conditions, in the past two years the staff of the Department has presented thirty papers before scientific societies, eighteen of which have already been published and others accepted for publication.

## DEMANDS OF THE DEPARTMENT

The demands of the Department may be stated briefly as those involving "Staff," "Space," and "Equipment."

*Staff.* The increased work of the Department in conjunction with the hospital laboratory work and the autopsy service is such that additional assistance must be obtained if this work is to be carried on properly and efficiently. There should be an all-time instructor on service in the laboratory at St. Francis Hospital, in order that this hospital may have adequate laboratory facilities. The photographic room demands an all-time photographer, who can work between the Department and University Hospital. This work is of greatest importance in the presentation of case reports and in demonstration of research problems, as well as in making lantern slides for demonstration and class teaching.

*Space.* The Department is in serious need of additional small rooms in which special work may be carried on. The general laboratory space is at present satisfactory; the need is for smaller rooms, combined office, and a small laboratory in which individual problems may be pursued.

*Equipment.* The needed equipment consists largely of microscopes, microtomes, incubators, paraffin ovens, etc. for these special units.

This report is a somewhat abbreviated form of the activities of the Department and I trust that you may be able to obtain such information as you may desire from it. If there are points not covered by the report I shall be very glad indeed to furnish you with more detailed information.

DEPARTMENT OF PHYSIOLOGICAL CHEMISTRY,  
PHARMACOLOGY, AND MATERIA MEDICA

CLAYTON S. SMITH, *Chairman*

CHANGES IN THE CURRICULUM

Beginning with the Winter Quarter of 1928-29, Materia Medica and Pharmacology will be offered in consecutive quarters instead of both in the Spring Quarter as has been the practice for the past four years.

The Annual Reports since 1925 have advocated such a change, and I believe the new arrangement will be much more satisfactory to both the Department and the students.

When the curriculum in Nursing was established during the past year, the Department was relieved of teaching chemistry to nurses. The nurses received no academic credit for the course, and the Department received no credit for teaching it. Under the new arrangement the nurses will be taught chemistry in the Department of Chemistry. This Department will continue to teach one four-hour credit course in materia medica to nurses.

During the past year the students in Veterinary Medicine taking Physiological Chemistry were temporarily transferred to the Department of Agricultural Chemistry. Under an agreement made with the Department of Agricultural Chemistry this Department gave credit in Physiological Chemistry to the Veterinary students for a certain specific course in agricultural chemistry. This arrangement was necessary for two reasons: First, the dental class was so large that there were no laboratory facilities available for the veterinary students if they were to be included in the same group as heretofore. Second, there were not enough staff members available to teach students from other colleges because of the heavy medical schedule in the third quarter.

If the Veterinary students are to be taught by this Department they will have to be handled as a separate group. The Veterinary curriculum does not give them the same chemical background as that of the medical and dental students. They must therefore receive a more elementary course. Unless additional instruction is allowed, the Veterinary students will have to stay where they are. In order to handle the large dental class this year it was necessary to appoint two additional laboratory assistants for the Spring Quarter.

EQUIPMENT

With the exception of the replacement of present apparatus due to wear and tear, the department does not anticipate securing any large pieces of equipment for work in physiological chemistry. In my report for 1927 it was pointed out that with more students taking electives in chemistry each year there was urgent need for additional space. The Department of Anatomy has permitted the temporary use of the room in the northwest corner of Kinsman Hall for nutritional and pharmacological study on rats. I should like again to recommend that the entire first floor of Kinsman Hall be assigned to this



Department. This would mean the surrender of two small rooms now used by the Department of Anatomy for storage purposes.

In the report of 1926 it was shown that, so far as the division of pharmacology is concerned, there is neither laboratory nor equipment. The only money that has been spent for equipment in pharmacology since the department has been organized has been the sum of \$88.00 secured from the Graduate Council for the purchase of rat cages for research work. The outstanding need of the department is pharmacological equipment. Pharmacology can no longer be considered as a part of physiology. Like physiological chemistry it is a separate body of knowledge.

In the matter of equipment this department would like to recommend the installation of a fluoroscope in Hamilton Hall. This could be used by this department as well as by the department of Physiology. Such an apparatus would prove very useful in the testing of animals of brominized oils, which the department is preparing for X-Ray work.

#### PERSONNEL

During the past year one additional assistant has been added to the staff. As pointed out earlier in this report, the department cannot fulfil its duties in a University sense unless the personnel is increased. Registration in medical courses to students in other colleges except The Graduate School is denied because of lack of facilities. Each year more students who are training for hospital or laboratory technicians seek admission to our courses. There is a definite demand for that particular kind of training but the Department is not prepared to meet it.

#### RESEARCH

Research in physiological chemistry is being conducted by Dr. Brown with the assistance of Messrs. Deck and Morris. Mr. Morris is working on the effect of varying amounts of fish oil in the diet on the composition of the depot fat of the white rat. This is a continuation of the work begun last year by Mr. Rawlins. Mr. Deck is continuing some work begun a year ago on the effect of caffeine on the activity of white rats. In addition, he is working on the preparation of potassium bi-iodate to be used as a standard in quantitative analysis. Dr. Brown is engaged in studying the effects of hexylresorcinol on the digestive enzymes in vitro. At the same time he is starting a series of studies on the nature of the unsaturated fatty acids in the lipins of various glandular issues. At present the lipins of the liver are being investigated. Each year one to four medical students who show special aptitude for chemistry are allowed to carry on minor research problems.

Research in Pharmacology has been a continuation of the work on brominized and iodized oils by Dr. Wikoff and Mr. Ward. In addition, the manuscript for the text in *Materia Medica* is being brought to its final state of revision by Dr. Wikoff and myself and will be sent this month to Lea and Febiger for publication.

#### COOPERATION

The work on anesthesia with Dr. W. I. Jones mentioned in last year's report has been continued this year with the assistance of Messrs. Whitacre and Wenzke.

## MEDICO-LEGAL

Only one toxicological case involving the University presented itself this year. This was in connection with the Department of Obstetrics where a five-pound can labeled Mead's Dextro-Maltrose proved to be five pounds of boric acid. One baby was made seriously ill but there were no fatalities.

## RECOMMENDATIONS

- (1) Immediate development of a research laboratory in pharmacology.
- (2) The acquirement of additional space as soon as possible for teaching laboratories in pharmacology.
- (3) Increase in staff to handle students from other colleges who may elect medical courses.

It is my opinion that the Department should be a Department in the College of Medicine first, before extending its facilities to the University as a whole.



## DEPARTMENT OF PHYSIOLOGY

R. J. SEYMOUR, *Chairman*

At various times during the past college year reports of its activities have been presented by this department. Hence, the department's "annual report" will be merely a brief recapitulation of data already in your possession.

The work of the department may well be considered under the two separate headings of research and teaching, although the department itself makes no effort to so subdivide its work. Which of these phases of departmental activity is of greater importance need not be discussed. Both properly belong to the activities of each and every department in the University. However, whether desirable or not, the teaching load—considered either from the standpoint of instructor-hours or from that of money expended—is the major one in this department. It is to be hoped that in the future a more equable division of department activities can be made, and that the research of the department may develop to such an extent that it would be properly regarded as its outstanding activity.

It is undoubtedly true that the standing of any department when compared with that of other institutions is judged almost entirely by its research production. The amount of energy expended and the excellence of its results in carrying the teaching load are today given minor consideration when the comparison is made between the work of the similar departments in two sister institutions. Hence, the department of physiology plans increasing attention to its research program for the coming year.

This does not mean, of course, that the department expects in any sense to lower its teaching standards, but rather that it hopes to maintain these at an even higher level, while at the same time carrying on the planned research. Such research, however, will depend of necessity on the availability of funds for the purchase of special and individual pieces of research apparatus. It is often difficult to convince administrative officers of the necessity of spending large sums of money in order that the research project of a single individual may be carried to completion. This is peculiarly true of experimental work in physiology, where, unfortunately, laboratory apparatus is exceptionally expensive.

During the past year the following papers have been published by members of the department staff:

E. P. Durrant—

"Studies on Vigor XI, Relation of Hysterectomy to Voluntary Activity in the White Rat."

"The Pulse Rate of the Normal Rat" (with R. G. Hoskins and M. O. Lee).

"The Effect of Isoamylethyl Barbituric Acid (Amytal) on the Pulse Rate of the Rat" (with R. G. Hoskins and M. O. Lee).

F. A. Hitchcock—

"The Effect of the Amount of Protein in the Previous Diet on the Nitrogen Excretion of the Albino Rat During a Fast" (with A. L. Rawlins).

"The Total Energy Requirement of the Albino Rat for Growth and Activity."

"The Effect of Low Protein and Protein-free Diets and Starvation on the Voluntary Activity of the Albino Rat."

"Cyclic Variations in the Basal Metabolism of Women."

R. R. Durant—

"Blood Pressure in the Rat."

"An Improvised Metal Cannula."

#### THE TEACHING LOAD DURING THE PAST YEAR

During the year 1927-1928 a total of 582 students was registered in the Department of Physiology. Of this number 420, or almost exactly 70 percent, were given laboratory instruction in addition to the didactic work. Since laboratory hours varied from four to eight each week, this would mean that approximately 2000 laboratory hours were given during the year. Unfortunately, lack of space in Hamilton Hall makes it necessary for the department to relinquish its chief laboratory to Physiological Chemistry during the Spring Quarter. This of necessity crowds the Autumn and Winter Quarters to a degree that makes it almost impossible to carry the teaching load in a satisfactory manner during those quarters. Additional space, by building an addition to Hamilton Hall or otherwise, would greatly relieve this situation and make it possible to distribute the teaching load among the various instructors of the department staff in a way that would make possible continuation of research through all quarters of the year, instead of confining such research activities almost exclusively to the Spring and Summer Quarters.

The department feels considerable satisfaction in the budget appropriations that have been made for the coming year. The additional assistance granted will make possible the offering of four additional courses in advanced work in physiology and will also, it is believed, increase the effectiveness in the teaching of the elementary courses. It is hoped that the results will prove such as to justify the increased budget.

During the year just closing 177 students were registered in advanced courses, 28 of these being in the Graduate School, the remainder in the technical colleges. One candidate for the degree of Ph. D. completed his work during the year; two others received the degree of Master of Arts. Several students carried minors in the department as a part of the requirements for advanced degrees, while others are carrying their major work in the department toward future advanced degrees.

The department of physiology has continued its custom of having weekly informal meetings during the noon hour. At such meetings various matters of minor importance have been freely discussed. It need not be said that occasionally disagreements concerning policies have arisen; but, after the majority of the group have determined upon a certain course, such members of the staff as may have been in disagreement have promptly made earnest efforts to support the plan agreed upon. Four or five formal meetings of the department staff were held, largely concerned with the planning of new courses, changes in curricula, and additions in personnel. There has continued to be a spirit of cooperation within the department which it is felt these frequent departmental meetings have done much to foster.



May the department again express its gratification and its appreciation of the cordial support that has been given by the Dean of the College of Medicine and the executive officers of the University to its various recommendations during the past year.

## DEPARTMENT OF PUBLIC HEALTH

DR. EMERY R. HAYHURST, *Chairman*

### RESEARCH AND INDIVIDUAL ACTIVITIES OF ACADEMIC NATURE

*Professor Selbert*—Research with graduate student, Miss Gladys Grim; investigated sanitation of toilets and restrooms in Campbell Hall, Botany and Zoology Building, and Hamilton Hall daily for month of February. Data given to the Dean of Women, at whose request the investigation was made.

A study made of the health habits of 284 women who were sophomores, juniors, or seniors in the Ohio State University during 1927-28. The study included observations of the group, inquiry through questionnaires, and personal conferences with 103 women who volunteered to discuss their health problems. This study absorbed almost all of my free time including many Saturdays and Sundays during the Autumn Quarter and a great deal of my time during the Winter Quarter. Report of study read before Ohio Academy of Science, April 7, 1928.

Visited Columbia University, Temple University, Bryn Mawr, in September, 1927; also University of Cincinnati and Western Reserve University.

Attended Annual Meeting of American Public Health Association, Cincinnati, October, 1928; Annual Meeting of American Association of University Professors, Cincinnati, December 28-30, 1927.

Sent information regarding five-year curricula for nurses and curricula in Public-Health Nursing. Received the same from all Universities and Collegès where such curricula are offered. After reading, gave most of these to Superintendent of Nurses in University Hospital.

Assisted a local sorority composed of Graduate Women in Scientific Work to become the Sigma Chapter of Delta Epsilon, a national sorority. Addressed this sorority on three different topics.

Attended courses in Pathogenic Bacteriology given by Dr. Chas. Morrey during Winter Quarter. Audited lectures given in Pediatrics by Dr. Horton.

*Dr. Wilson*—Research work with students. This has been practically a daily duty throughout the past year. It involved the following subjects:

1. Economic loss due to illness and the study of its prevention covering approximately 35 different diseases.
2. The value of the Periodic Examination for the prevention and control of disease. The 83 studies covered a wide variety of conditions.
3. A study of the Water, Sewage, and Garbage problems of Columbus.
4. The study of a typical "Graph" and the interpretation of "Graphs" generally and the one in question in particular.

5. A comprehensive study of The Common Cold—Its Causes and Prevention.
6. A study and review of the 84 Theses followed by a critique furnished the student.
7. Individual research work—
  1. Ventilation, Applied Mechanical.
  2. Food Indices.
  3. The Common Cold.

*Professor Hayhurst*—Directed research in connection with various projects including some outside agencies and business organizations, partly with the cooperation and assistance of various departments, instructors, and students in the University, as follows:

- (1) "Pneumonia Versus Combustion Products," Grant 87, American Medical Association, \$500.00.

Cooperation of Department of Bacteriology, Prof. Charles B. Morrey; the Department of Metallurgy, Prof. D. J. Demorest and assistants; and the State Department of Health, Mr. Fred Berry and Mr. Leo Eye. This research, which began in June, 1926, was completed during the Autumn Quarter, 1928, and the results published in the *American Journal of Public Health*, April, 1928.

- (2) "Silicosis in Amherst Quarrymen," Grant 88, American Medical Association, \$1000. Also appropriations and assistance as stated in last year's Annual Report. This year were added:

Salary of Dr. Byron E. Neiswander, State Department of Health, for three months, estimated at \$750, in connection with statistical work on this study.

Professor William J. McCaughey, Department of Mineralogy, mineralogical studies.

Research about completed and to be reported by Dr. Hayhurst at the Fifth International Medical Congress for Industrial Hygiene and Occupational Diseases, Budapest, Hungary, Sept. 2-8, 1928.

- (3) "Physiological effects of radiant energy in radiant gas stoves," for the J. H. Grayson Manufacturing Company, Athens, Ohio. Present part of research conducted by the Department of Physics, Prof. Alpheus W. Smith and Mr. Earl D. Wilson. Dr. Hayhurst, consultant.
- (4) "Toxicity of Thylox—An Arsenic Containing Catalyzer for Purifying Manufactured Gas," supported by The Koppers Company Research Laboratory, Mellon Institute, Pittsburgh. This research began in March, 1927; completed December 31, 1927; with the assistance of Prof. Clayton S. Smith and staff.
- (5) Dr. Hayhurst acted in various official capacities as follows:

Organized the medical side of the American Committee (31 persons) of the Fifth International Medical Congress for Industrial Accidents and Occupational Diseases, to be held in Budapest, Hungary, September 2-8, and acted as Joint Chairman, the other Joint Chairman being Dr. Fred H. Albee, Surgeon, New York City.



One of the Vice Presidents of the Ohio Academy of Science, Chairman and Secretary of the Section on Medical Sciences. Attended meeting at Cincinnati, Ohio, April 6-7, 1928.

Chairman, Sub-Council on Health, Columbus Council of Social Agencies; meets once every two months.

Secretary, Columbus Torch Club, an organization limited to professional men, for cooperation in establishing ideals. Meets once a month except during summer.

Secretary, Section on Industrial Hygiene, American Public Health Association (practically daily correspondence and committee work). Meets annually in October.

Member of Executive Board (to October 1927), Governing Council, and various committees, American Public Health Association.

Delegated by the Department of State to represent the United States at the Fifth International Medical Congress, Budapest (vide supra), and supplied with special diplomatic passport.

Elected one of the Vice-Presidents, Royal Institute of Public Health, Great Britain, planning to attend its Annual Congress to be held at Dublin, Ireland, August 15-20, 1928.

Consultant, Industrial Hygiene, State Department of Health, salary \$2000 per year and traveling expenses within the State.

Scientific meetings attended—American Public Health Association, Cincinnati, October, 1927; Ohio Academy of Science, Cincinnati, April, 1928; Ohio State Medical Association, Cincinnati, May, 1928.

## DEPARTMENT OF SURGERY

VERNE A. DODD, *Chairman*

The work of the Department has proceeded uninterruptedly throughout the year. The personnel have maintained their excellent standard of teaching effort, and the results have been most satisfactory. This report deals more with the needs of the Department than with an analysis of the routine work accomplished. It is with gratification that I speak for the members of my Department in thanking you for your sympathetic understanding and interest in our problems and for the encouragement which we have received.

## DIDACTIC TEACHING

The scheduled courses of lectures have been in every way successful, but a few changes seem desirable.

Several years ago at the suggestion of Dean McCampbell, there was instituted a competitive teaching plan for Surgery 602, 603, and 604. The class, divided into two sections, covered the same subject matter simultaneously. This has required six instructors instead of three, and the duplication of effort has not resulted in any particular benefit either to students or instructors. As students were not privileged to elect the instructor, no real competition developed. Being a lecture course, 80 students can be served as well as 40. It is planned to abandon this dual system the coming year.

It is advisable to teach the fundamentals of Roentgenology and Anesthesia in a short course of lectures that the senior students may be better prepared for the practical application of these subjects in Ward Clinics.

For several years Surgery 610 has been carried in the Curriculum as a two-hour period once a week for one quarter. The first hour of this period was given to lecture; the additional hour was allotted to cover some few laboratory demonstrations which had but little value. The content of the course was revised and as now given stresses the underlying principles of Operative Surgery rather than Technique. In this scheduled but unused second hour, there was introduced a short course of lectures on Anesthetics this year as a temporary expedient. These were given by Dr. Jasper and proved an acceptable addition to the instructional work. This arrangement obviated the necessity of adding to or rearranging the curriculum to accommodate them. It is suggested that this arrangement be continued with the addition of a few hours devoted to Roentgenology.

## CLINICAL TEACHING

In the Department of Surgery there are the divisions of General Surgery, Gynecology, Genito-Urinary Surgery, Orthopedics, Roentgenology and Anesthetics. The major part of the work of these several divisions is clinical. The teaching is carried out in University, St. Francis, and Children's Hospitals, and State Street Dispensary. The value of clinical teaching wherein the student actually contacts with the patient cannot be over-estimated. This value is, however, in direct proportion to the size of the clinic, as only in considerable number of patients occurs that variety of diseased conditions that



illustrate medicine or furnish repetitions of any given condition that is the basis for most studies in clinical research.

Because the University Hospital Clinic is the only one entirely under the full control of the College, we must look there for our most effective work. The very limited bed capacity of this institution correspondingly limits the scope of clinical teaching. However, considering these facts, full advantage has been taken of available facilities. This has been accomplished by rapid turnover of clinical material. Of necessity we have adopted a policy of careful selection of patients admitted. We limit our admissions as much as possible to acute cases accommodating only such chronic cases as may enter for a few days observation. It is necessary, therefore, to refuse admission to all classes of patients requiring prolonged hospitalization for their treatment. This is unfortunate, for not only do we lose many valuable teaching cases but also, because we fail to accept any and all referred patients from physicians and welfare organizations, they lose sympathy for and interest in the Hospital Clinic and cease their efforts to support it. This condition of affairs can be corrected only by greatly increased bed capacity.

Clinical Surgery of all divisions has given each student an assignment of an average of eleven patients in the three-week period of their section duty. Ward Teaching has not been entirely satisfactory because of the conflict of ward rounds, operating room demonstrations, and the required bedside work of students on new patients. The difficulty arises from the fact that these activities all fall in the scheduled three-hour period assigned for the Course of Hospital Ward Clinics. As an experiment, in the Spring Quarter each morning of Ward Clinic was definitely assigned to an instructor, who was responsible for the work of the combined surgical sections for that period. His routine included ward rounds, demonstrations of new cases, surgical dressings, and selected operations. Thus each student had the advantage of contact with the most valuable instructional cases on all services. Students were permitted to "work up" the newly assigned cases at any convenient time during the day or evening. The students showed their interest in this change by doing their work very satisfactorily in time outside of the scheduled hours. Both instructors and students were most favorably impressed with this experimental change, and it should be followed out in both University and St. Francis Clinics this coming year.

The work of the Clinic is such that sufficient time cannot be given by the instructors to supervise adequately each and every student history and examination. This will be bettered by the aforementioned plan, but will only be effectively done when it becomes a duty of a teaching resident or junior staff instructor. Until the bed capacity is increased, such an appointment is not to be recommended, as there are not now sufficient professional opportunities to attract a suitable man.

#### SURGICAL PATHOLOGY

The relation of the Department of Pathology to the Hospital Clinic is one of harmony and cooperation; yet the needs of the teaching clinic can be satisfactorily served only by the development within it of a division for tissue work, with a trained Pathologist available at least every morning. A Hospital Pathologist should be not only a Cellular Pathologist but also a man interested in the clinical pathology of the bedside and of the Operating Room; one who sees the living pathology as consultant and teacher and who follows it through



the laboratory to the class conferences and to the Staff meetings; one who could select, prepare, and preserve teaching specimens and direct the activities of photographer and artist. This is the service that would do much towards stimulating clinical research and the building of a better museum.

The present almost total disassociation of the Pathological Department from the Hospital works greatly to the disadvantage of both. The Clinician has no contact with the Pathologist except by appointment. Where prearrangement is made, some member of the Department gives willing and efficient service in the Hospital; but it is propinquity only that will produce a great advance in the teaching of students, stimulation of staff, and the acquisition of valuable teaching material and coordination of the work of Hospital and Laboratory.

#### RESEARCH

To contribute to Scientific Research from the material at our disposal is one of the outstanding needs of the department. Under present conditions, except for an occasional clinical problem, no program of experimentation can be carried out.

The work of the Department of Surgery is largely clinical, and any clinical research must depend upon the assistance of other departments, such as Physiology, Pathology, or Anatomy. Each department, though willing to cooperate, has so limited a personnel as only to be able to carry its teaching duties with an occasional bit of original work for its own department. To develop research in Surgery worthy of the name will require the outlay of considerable money. Well-equipped laboratories must be manned by efficient technical and clerical assistants. A full-time man equipped with the research type of mind and with special training should be added to the department to stimulate, direct, and coordinate these activities. The present teachers of the department are interested in clinical problems and in advancing the sum total of human knowledge in the field of medicine, but in the time which can be allotted from their private interests there is but little not given to their teaching or ward work.

#### PHYSICAL THERAPY

Therapy by physical methods has steadily gained in importance in recent years, especially since the great war, until now there are recognized departments in most modern hospitals. In the medical literature of today much appears on this subject and there is a rapidly developing armamentarium of apparatus to carry out the increasing results of research in this field. Some recognition should be given this work in an instructional and clinical way in the very near future.

At a recent meeting of the Executive Committee of the Hospital there was a discussion of plans for the development of such a division in the University Hospital Clinic. This plan, if adopted for the Medical School, should be entrusted to an instructor who is well grounded in the Science of the specialty and who is especially interested in its problems. It is recommended that at least a modest beginning be made in the coming year to introduce such a division with clinical demonstration in the Hospital.

#### ST. FRANCIS HOSPITAL

By a remodeling process the physical plant at St. Francis Hospital has been greatly improved during the past year. The large wards have been



divided to make smaller ones, an arrangement which has greatly lessened the confusion and permits better segregation of patients. Four new operating rooms have been installed and some new and modern equipment added. A new X-Ray Room has been built and equipped with modern apparatus. A cystoscopic table has been procured for the Genito-Urinary Division which has never had efficient equipment. With these new facilities provided by the Sisters of St. Francis, the care of patients in that clinic has been greatly improved.

The lack of adequate laboratory facilities and particularly of its supervision has hampered efficient teaching in this clinic. A part time technician is greatly needed. There is also a very real need for a full-time man to coordinate the clinical work of this hospital. A Chief Resident should be secured for this purpose.

#### STATE STREET DISPENSARY

The Department of Surgery has failed to realize much value from its activities in the Dispensary because of facilities that are totally inadequate.

It is generally agreed among medical teachers that the value of dispensary work cannot be overestimated in the teaching of Clinical Medicine. The Dispensary well manned with teaching personnel, adequately equipped and supervised, constitutes by far the most important factor in the teaching of Clinical Medicine to undergraduate students. Half or more of all undergraduate teaching can and possibly should be done in Dispensaries. There is everywhere a growing tendency in Medical Schools to devote more and more time to out-patient teaching, and adequate space and equipment commensurate with its importance is provided.

In our Dispensary general surgery has but a single small room, without natural light, and lacking the most ordinary equipment. It is a positive discredit to the Medical School and is a condition most discouraging to the Instructors. The most minor surgical procedure is of necessity referred to the Hospitals, where it is lost to the student because of these conditions. The proper equipment for good Dispensary teaching is exactly that of the Hospital, lacking only the feature of continuous bed care. The physical plant should provide an adequate number of waiting rooms, examining rooms, and adjacent dressing rooms, each equipped with the necessary examining furniture and instruments for every division. Both general and special laboratories should be equipped to serve the whole. Provision should be made at the earliest possible date for the proper accommodation of surgery and its specialties in the Dispensary, where they are now so hopelessly handicapped by cramped and unsuitable quarters and lack of equipment. Further progress is not possible until this urgent need is provided.

In the past the General Surgical Dispensary has been manned by Instructors assigned for short periods of service in rotation. With the feeling that continuity of service will encourage the growth of the Department, it is planned to inaugurate a continuous-service plan by two qualified instructors for the coming school year.

#### DIVISION OF GYNECOLOGY

At the request of Dr. Fletcher he was relieved of Didactic teaching, and Surgery 605 was given by Dr. Reel in the Spring Quarter. This division has

sixteen beds in University Hospital, which are kept constantly filled from a waiting list. Fully as many patients are refused admission as are served because of limitation of bed space. To obtain a desirable variety of cases for teaching purposes a minimum of thirty beds should be provided. A small clinic room is being equipped and assigned to the Division for examination and demonstration of patients on this service. This will greatly aid the clinical teaching.

Gynecology as a specialty has been discontinued in the St. Francis Hospital Clinic for several years. To preserve its identity in clinical teaching and to equalize the hospital clinics, it is recommended that the Division be again represented at St. Francis Hospital. This will augment the insufficient clinic of University Hospital and permit all students to have contact with this division of clinical material.

A continuous service in the Dispensary has been arranged for the ensuing year which should go far toward developing the out-patient clinic to the fullest extent possible with the limited space available.

#### DIVISION OF GENITO-URINARY SURGERY

The work of this Division has grown very greatly in the past two years although this growth has been made in the face of many obstacles. The development has been the result of the persistent effort of Dr. Taylor and his personal continuous service in Hospital and Dispensary Clinics.

With the opening of Wing A at University Hospital, there was available competent space to care for the needs of the Division. Sufficient equipment has been furnished to do the work efficiently. With the granting of an Assistant for the coming year, the Division in this clinic will function in a highly creditable manner.

The activities of the Division are greatly hampered in the Dispensary, as are all others, by the limitations of the physical plant. The afternoon clinic has been discontinued and united with the night clinic. At St. Francis Hospital additional equipment is needed to permit satisfactory work. Every effort will be made the coming year to supply the necessary instruments with which to take fuller advantage of the teaching possibilities there.

#### DIVISION OF ORTHOPEDICS

The work of this division is chiefly done at the Children's Hospital and in the State Street Dispensary. The Children's Hospital Clinic is held every Saturday morning by Dr. Wilson and is the most satisfactory contact for the student sections under present conditions. At the Children's Hospital the service is fairly large, averaging from twenty to twenty-five cases. The out-patient department there is spacious, well-arranged, and adequately equipped, giving excellent facilities for all demonstrations. As this is the only Hospital in the city affording bedside teaching, it is invaluable to the Department of Surgery.

The very limited bed space at University Hospital absolutely forbids further divisional allocation, so that only an occasional adult orthopedic case can be accommodated therein. This situation precludes the organization of an orthopedic clinic and prohibits clinical contact with adult cases. These are of necessity sent to hospitals not affiliated with the University. This is but one more example of the urgent need for increased hospital facilities. With



additional bed capacity, there would come the opportunity to develop an orthopedic clinic in University Hospital for both adults and children.

The Dispensary Clinic is held twice a week; but, owing to lack of space and equipment, little can be accomplished except to interview patients, make the most cursory examinations, and refer them elsewhere for treatment.

#### DIVISION OF RADIOLOGY

During the past year student sections in surgery at University Hospital have been scheduled to meet the Radiologist for a thirty-minute period each Saturday morning, at which session there is demonstrated the interpretation of radiographic films based on the material of the week. This reinforces the demonstration at the bedside of the occasional case and guarantees that each student sees a wide selection of material.

The teaching of X-Ray should be further augmented by a few hours of lectures on the principles and technique, and there should be an increase in the time devoted to the laboratory work of the division. At the University Hospital Clinic the work has increased to such an extent as to throw a great burden upon the Technician. It will be necessary to relieve her of the clerical routine in the near future, so that she may devote full attention to the technical aspects of the work. At St. Francis Hospital the technical work has been greatly facilitated by the interest and effort of one of the Sisters. There is need, however, for a man especially trained in X-Ray work to supervise and interpret the work done.

Facilities for reduction of fractures, applications of dressings and removal of foreign bodies under the fluoroscope at University Hospital Clinic are very poor at present but will be adequately cared for when the equipment is augmented and moved to one of the Operating Rooms as now planned.

## REPORT OF THE SUPERINTENDENT

CHARLES E. FINDLAY

A review of the activities of the Starling-Loving Hospital for the past year shows on the whole that satisfactory progress has been made. All of our hopes have not been realized, but some things which seemed rather remotely possible have come to pass. The sick have been well cared for and the training of medical students, residents, internes, nurses, and dietitians has continued with enthusiasm. It is this training which contributes very considerably to the expense of operating the hospital. We could operate for less—how much less depending directly upon the curtailment of educational activity. To curtail education would be to lessen markedly the value of the hospital to the patient, the University, and the Community.

## STATISTICS

During the fiscal year there were 4,386 admissions to the hospital. The total number of hospital days was 44,948. The daily average number of patients was 123. The largest number of patients treated in one day was 174 on April 14, 1928; the smallest number of patients treated in one day was 91 on August 7, 1927. The average stay in the hospital was 14.6 days. The average stay in the hospital may seem a little high but the reason is because it is necessary to retain certain types of patients for teaching purposes. Our bed capacity at the present time is as follows:

Private Beds.....	52
Semi-Private .....	22
Ward .....	139
Cribs .....	27
Bassinettes .....	15
Isolation .....	16

## FINANCIAL

In a financial way the operation of the hospital during the year has been quite successful. Due to the reorganization of our accounting department, in which a definite procedure of charges and collections has been worked out, we have increased our income from all departments. By being able to establish a definite cost per day per patient, the Industrial Commission has given us a contract on the basis of a flat rate of \$6.00 per day for all industrial patients, while in preceding years they have only allowed us the minimum rate of \$3.00 per day. The cost of operation has increased in proportion to the increased number of patients and personnel. The hospital has been able to go through the year without sacrificing any of its program of service to patients, because of the fact that receipts from patients have shown an increase and our appropriations have been sufficient to take care of the added demands.

The total collections from patients was \$15,039.15 more this year than last. However, in order to have our report completed by July 1, we audited



our books June 15, while last year the collections included all the month of June. This increase is accounted for partly by the fact that there was an increase in number of patients, but largely through better methods of collecting. It is my sincere opinion that application should be made to the Community Chest for funds, as our hospital does as much or more charity work as any other hospital in Columbus receiving funds from the Community Chest.

#### NEW POSITIONS

In the reorganization of departments in the hospital and due to the increase in number of patients, we found it necessary to make the following additions to our administrative staff in order to give prompt and efficient service to our patients:

- Storekeeper
- Housekeeper
- Admitting Clerk
- Assistant Historian
- Assistant Anesthetist
- Bookkeeper
- Bookkeeper
- Telephone Operator
- Supervising Nurse
- Instructor in Nursing

#### NEEDS

(a) *Nurses' Residence.* With reference to the request for a Nurses' Residence, the following facts should be given consideration: Our nurses belong to one group, and we are responsible for their conduct twenty-four hours of the day. Because the nurses live in four different residences at the present time, it is impossible to give them proper supervision. Most of the nurses come from homes where they have had better rooms and living conditions than we are able to give them. We should have a residence which compares favorably with other modern quarters provided for nurses. The residence and living conditions are considered first by many of our applicants. Classrooms should be included in the nurses' home and should be modern and adequate. The building should be considered as a Residence and Nursing Education Building.

(b) *Additions to Present Hospital Building.* In order to provide adequate teaching material for our medical students, it is necessary that additional beds be provided for the various types of patients admitted. Up to the present time we have not had beds available for orthopedic and neurological patients, but if we are to maintain our reputation as a teaching hospital and meet the requirements of the American College of Surgeons and the American Medical Association, it will be necessary to provide beds for these types of patients. We are also obligated to provide suitable quarters for the Prenatal Clinic, which is housed in a very limited space in the State Street Dispensary. Our main kitchen and dining-room is inadequate to serve our present number of patients and personnel. Also additional storage space for patients' clothing, supplies, etc., is very much needed.

(c) *Elevator for "A" Wing.* In the remodeling of "A" Wing, it was not deemed advisable to reinstall the old elevator. The service in "A" Wing is seriously handicapped without elevator service. Approximately sixty beds will

be added to this wing during the coming year, making elevator service necessary.

(d) *Physio-Therapy Equipment.* A teaching hospital should be progressive; and, since most of the hospitals of any size are equipped for Physio-Therapy work, it seems that the request for this item of equipment should be given serious consideration.

(e) *Better Laundry Facilities.* The laundry situation is becoming acute. On account of the length of time necessary to do our laundry work and the increasing amount of damaged laundry received daily, it has been necessary for us to purchase at least one-third more linens than we should ordinarily require if we had adequate laundry facilities. We cannot depend on receiving any definite amount of linen from the laundry daily. On account of not receiving certain items from the laundry, we have not been able to give our patients the proper care on numerous occasions.

(f) *Rugs and Curtains for Private Rooms.*

(g) *Canopy over Ambulance Entrance Door.*

(h) *New Garbage Storage House.* Present storage house is entirely too small and is not suitable for the purpose for which it was intended.

(i) *Ambulance Drive Repaired and Oiled.*

(j) *Wards and Private Room Equipment.* This equipment is necessary to open all of "A" Wing for patients.

(k) *Additional X-Ray Equipment.*

(l) *Floor to Be Repaired in Main Kitchen.*

(m) *Additional Dining-Room Space.*

(n) *Incinerator for Burning Soiled Dressings, etc.*

(o) *Additional Operating-Room Equipment.*

(p) *Equipment for Plaster Room.*

(q) *Room Numbers to Be Installed Throughout Entire Building.*

(r) *Additional Storage Space.*

(s) *Shades for Solariums.*



## REPORT OF THE SOCIAL SERVICE DEPARTMENT

EMILY C. GREER

Through the splendid cooperation of the Medical Staff of the Hospital and the various Social Agencies of the city and county, the Social Service Department has been able to carry on its diversified activities with a minimum amount of difficulty. This work of necessity comprises four rather widely divided endeavors:

1. Classification of hospital patients.
2. Investigation of Social Status of patients' homes.
3. Provision for, and transfer of, undesirable hospital patients.
4. Investigation of financial status of the patient or the immediate next of kin.

The investigation of the hospital patient comprises an interview with the patient, parent, or the responsible guardian, for purposes of obtaining his social history and standing in the community from which he came. This work has required the sum total of 1,908 interviews.

The investigation of the social status of the patient's home requires field work; in many instances it necessitates repeated visits and tracing the patient from either fictitious or subsequent changes in address. In many of these cases it is necessary to provide for the dependents while the wage-earner is a resident in the hospital. This work is done through our association with, and the cooperation of, the various city and county social agencies. The steady increase in the hospital side of this work has resulted in insufficient time for all the field work the Department has wanted to accomplish. Working under this handicap, the Department has been able to make 232 calls.

The Department has been able to provide for and transfer many patients who became subjects for Sanitorial and Infirmary care. These patients are so handled upon advice of the attending Medical Staff.

The financial work of the Department has resulted in the collection of \$6,202.45 from the clinical beds, and does not include such sums as may have been collected by the hospital for operating-room services and administration of anesthesia. The Department has operated under the plan that, since the Starling-Loving Hospital is fundamentally a teaching institution, wherein there occur many instances when the hospitalization of a patient is prolonged purely for teaching purposes, undue and demanding efforts for collection of money has been minimized.

The Department would like this opportunity of suggesting for your consideration the plan employed in similar institutions in other cities with reference to its field work. This constitutes a working arrangement with the Junior League of the city, whereby motor-car facilities are made available for two afternoons each week. Should some such plan be worked out a larger territory could be covered and more field calls made.

## COLLEGE OF PHARMACY

*Dean, CLAIR A. DYE*

The work of the College for the year just closing, while perhaps offering no especial outstanding features, has been quite successful.

It is perhaps unnecessary to include in this report any statistical data relative to the registration for the year since this material is all a matter of record. It may, however, be added that, now that the four-year requirement has been generally recognized, the enrollment is gradually increasing. This fact, when it is recalled that the present law requirement is but two years, can only be interpreted as an indication of the growing sentiment in favor of the higher requirements now in force here. As an evidence of this we wish again to call attention to the increasing number of students entering pharmacy who have had previous college training. Every effort has been made to meet these conditions by increasing not only the quantity but especially the quality of the work offered. This has been made possible through the smaller classes, thereby enabling the instructors to give the students greater personal attention and to materially increase the amount of work offered.

In view of the foregoing we wish to emphasize again the great need of providing better and more modern equipment and facilities for the College. While it is true that the College is to be provided with quarters in the New Chemistry building, from present indications the capacity of these will be reached before they are occupied. Moreover, since these quarters are generally considered as but temporary, it is hoped that this fact will be kept in mind and that as soon as possible new, modern, ample, and permanent quarters will be provided—quarters which will permit us to bring the work up to our present requirements and enable us to broaden the scope of work offered, thereby enabling the College to offer advanced work in several fields of applied and scientific pharmacy not now covered.

In the report for last year, attention was called to the adviser plan adopted for the freshman students. This year in order that the plan might be more effective, a Survey Course of one hour a week was inaugurated. Through this and through the advisers, we have been able not only to keep in touch with the work of the freshmen but also to explain many of the questions arising concerning the University regulations and practices. In addition, we were able to bring to their attention many facts relating to the practice of pharmacy and other closely related fields, as well as to emphasize the important features of the fine historical background and ideals of pharmacy. In fact, every effort was made to advise and help the students with their everyday problems as well as with their college work.

In this connection we wish to emphasize the fine cooperation received from the Department of English in arranging special sections for the pharmacy students. We desire also to commend the great effort that was made to study the special needs of the students.

The past year the American Association of Colleges of Pharmacy has undertaken a survey of the schools holding membership in the Association. The object of the survey was not only to determine the character of the physi-



cal equipment of the schools, but also to study the nature and quality of instruction offered. A further object is to study the training and experience of the teachers in the schools, with the view of materially raising the standard of work offered by requiring better trained and more experienced teachers. This we feel is a wise move on the part of the Association, which cannot fail to bring about higher standards as well as a better quality of work offered. In this connection it may be stated that the College of Pharmacy was among the first schools inspected and, aside from a few minor suggestions to be carried out, was given a high rating.

Perhaps the most outstanding accomplishment of the College the past year was the acquisition of the private technical library of the Late Azor Thurston, which was presented to the College by his son Newman R. Thurston, of Grand Rapids, Ohio. The library includes some 1,200 volumes as well as several hundred pamphlets and reprints. The major portion consists chiefly of complete sets of the more important journals in the fields of chemistry, pharmacy, and food analysis. In addition, there are many small sets, text, and reference books on the same general subjects. Mr. Thurston was for many years chief analyst for the State Dairy and Food Department and for a time an instructor in the College of Pharmacy. The library represents, therefore, not only the activity and accumulation of his long experience but also the efforts of an enthusiast in his field and one keenly appreciative of the best in his chosen line of work.

In previous reports we have called attention to the practice of several of the instructors doing relief work in a number of drug stores during the year. We wish to emphasize this activity, since it keeps them in contact with present-day store demands and conditions. As a result, they are able to give the students the advantage of their experience, a feature which is of distinct value to the students.

We have this year, as in the past, provided the State Board of Pharmacy with the laboratory space and equipment necessary for carrying on the practical part of the State Examination. In this way we have made it possible for the Board to give a series of practical examinations which are considered to be among the best offered in any of the states.

In addition to the usual administrative duties and teaching schedule, a special effort has been made to keep in close touch with the pharmacists of the state and their problems. To this end we have attended numerous local association meetings. We also attended the joint District Conference of the State Boards and Colleges held in Chicago. As a further activity I was appointed by the Executive Committee of the American Association of Colleges of Pharmacy to inspect the College of Pharmacy of Purdue University and the Indianapolis College of Pharmacy.

It is quite evident that, whatever measure of progress and success the College has attained during the year, is largely due to the fine cooperative spirit, interest, and loyalty of the instructional staff. They have given generously of their time and energy in making the work a success and I therefore wish at this time to give due credit to and recognition of their efforts.

In conclusion permit me to express to you, and the administrative officers my very deep appreciation for the helpful suggestions and hearty support received during the year, without which little progress would have been achieved.

## COLLEGE OF VETERINARY MEDICINE

Dean, DAVID S. WHITE

## THE TEACHING STAFF AND STUDENT BODY

As your office has full information in regard to the teaching staff from the standpoint of number, rank, salary, teaching load of each, etc., nothing in regard to the faculty will be included in this report. The same is also true of the student body. It need only be mentioned that the increase in student numbers has been very encouraging and gratifying. Incidentally, Ohio State had this year a larger entering class of veterinary students than any other school on the American continent. The outlook for the coming year is also encouraging.

## ACTIVITIES

The activities of the College have grown to become rather routine with most of the teaching staff. The definite objective of the student, the rigidity of the curriculum, and the important fact that the student expects to use directly in his daily work in post-university life the facts he receives in the classroom and laboratory, tend to make the matter of presentation on the part of the teacher more perfunctory and less experimental than where opposite conditions prevail. Furthermore, most of the teachers are men of long service, which in itself promotes conservatism in methods. On the whole, however, I believe the teaching work of the College compares favorably with that of the other professional schools, and is perhaps better than in the upper years of human medicine where the teacher is often a "part-time" one whose greater interest is in his practice.

The functions of the College may be grouped under three heads:

1. *Teaching.* Teaching veterinary medicine to professional students. Incidentally, agricultural students in animal husbandry courses are taught some of the fundamentals of veterinary medicine, such as anatomy and physiology and in addition something in regard to sanitation and hygiene. This work better fits the student in animal husbandry to understand the breeding, feeding, and judging of farm animals; it also teaches him something of disease prevention. If more help were available, the teaching of agricultural students could be made much more efficient than at present.

2. *Scientific Research.* The greatest weakness of the College is in the field of research. Every scientific school should conduct experiments, not only to solve pressing problems, but also to keep the teaching staff from going to seed. No alert, up-to-date teacher of science can maintain himself at the highest point of efficiency unless he keeps in touch through actual experiment with the many unsolved problems in his field. At Cornell University and at Iowa State College, experimental farms are maintained by special legislative appropriation for veterinary research. The last state legislature of Iowa appropriated \$80,000 for one year for this purpose. Ohio has done nothing as yet for the University in the matter of veterinary research. In Ohio the regulatory (police) force of the State has received practically all in the way of special legislative appropriations, and in addition has been given a farm, the so-called "Serum Farm" at Reynoldsburg, for research. All the state



veterinarian's office needs in this regard is a single laboratory for routine examinations. The "serum farm" should be under the jurisdiction of the University. Properly equipped and supported, it would form one of the State's greatest assets. It would be most valuable to the student bodies of the Colleges of Agriculture and Veterinary Medicine, would attract to us post-graduate students, and would serve to keep the teaching staff more active and alert and, as noted, make better teachers of them. Finally, the name of the University would become far better known abroad for it is through research that universities become really great.

3. *Authoritative Veterinary Center of the State.* The veterinary school of the state university should be looked upon by the people of the State as the institution which heads up everything relating to veterinary medicine in the state. A good, strong veterinary school not only is an important economic factor in keeping down the enormous losses due to disease among live stock, but it is also closely related to human health. By controlling, if not eradicating, diseases like tuberculosis, rabies, and glanders, human life is guarded directly; through a system of food inspection, now in the hands of the veterinary profession, diseases of man due to foods of animal origin which have become unfit for consumption are prevented.

An important outside activity of the College is the annual veterinary conference held on the campus in the interim between the Winter and Spring Quarters. The attendance this year (1928) was over 300, 84 per cent of whom were from Ohio. This is the largest conference held anywhere in the United States. It is hoped, for the good of the live stock industry, to make the conference an annual event. A special committee is now at work studying the whole question with the idea of making the 1929 conference even better than have been any of its predecessors. We believe it to be an important piece of university extension.

#### PRESSING NEEDS

As noted in previous reports, for internal convenience the Department of Veterinary Medicine is divided unofficially into four sub-departments. The needs of each will be listed below under the proper caption.

1. *Veterinary Anatomy.* The floor of Room 100, Veterinary Laboratory (the upper dissecting room) should be made *safe* for student use. This has been reported several times, but, so far as I know, without tangible results. At least no repairs have been made, and we fear if fifty students and the dissecting material, tables, etc., be placed upon it, it will crash. The room just beneath we have been using since it was abandoned by the department of bacteriology. This room needs painting, additional lights, a water trough for wetting cadaver wrappings, and steam outlet for preparing certain anatomical specimens. Some of the old fixtures left by bacteriology, now in the way and merely collecting dirt, should be removed.

2. *Veterinary Medicine.* This sub-department is conducted entirely by the Dean. He has never had an assistant nor much in the way of equipment. Compared with Cornell, the University of Pennsylvania, or Iowa State College, this sub-department is undermanned and underequipped. At each of these institutions internal medicine is handled by two to three men.

3. *Veterinary Pathology.* This sub-department also includes histology. Only three instructors are available. At Cornell there are six men teaching pathology and at Iowa State College there are also six. The annual salary

budget for this department in the two schools cited is \$34,840 and \$12,000 respectively. In neither of the departments compared is histology taught as a part of pathology. Histology is the microscopic study of healthy, normal tissue; pathology the microscopic and microscopic study of diseases, abnormal tissue. Here we combine them as it is more economical to do so. Pathology has the laboratory space and microscopic, anatomy has neither. In all other schools histology is included in anatomy. Pathology should be given an additional teacher and money for research.

4. *Veterinary Surgery and Obstetrics.* The four teachers in these branches not only teach all of the Surgery, obstetrics, hygiene, sanitation, and materia medica but in addition conduct the veterinary hospital and the outpatient clinics. During the past nine months approximately 8500 different animals were treated in the clinics affording the upper classmen a good opportunity to learn the application of the classroom and laboratory experiences to the actual patient. To make the clinics more efficient, a lot of the work now done by student labor should be performed by a graduate interne or house surgeon. The cost would not be much greater than at present, as we are now expending nearly \$1200 annually to pay students. While the surgical equipment of the clinics is pretty good, an X-ray machine should be installed to aid in diagnosis work. Many private veterinary hospitals now have such equipment. Our students should have an opportunity not only to learn how to interpret shadow pictures but also to make diagnoses with greater assurance and accuracy. The ambulatory clinic should be provided with a new motor vehicle. The present one is several years old, an archaic, dilapidated motor car, not a good advertisement of the University.

If the State of Ohio desires to guard its live-stock industry by maintaining at its State University a veterinary school of real service, it must take the matter seriously. With nearly \$300,000,000 invested in animal wealth which is constantly menaced by disease, it behooves our commonwealth in its own interest to do this thing. Merely temporizing with the problem will get us no where; in fact it will make the money invested largely a loss rather than a profit. With the increasing congregation of animals year after year upon soils and on premises constantly being polluted and re-polluted with parasitic infestations and infections, animal production must soon become a profitless business which will fall into decay. When this occurs other sources of the goods, clothing and power now derived from animals must be provided. This seems, however, far in the future. Furthermore, new methods of maintaining soil fertility must be invented to replace the barnyard manure needed to sustain a productive agriculture. Until this time comes, animals and their diseases will be with us requiring an ever-increasing development of better breeding, better feeding, better sanitation and hygiene on the part of the animal husbandman, and a more rigorous, careful, and efficient prophylaxis on the part of the veterinarian. The only source of the veterinarian is the school and the only veterinary school in Ohio is at the State University.



## GRADUATE SCHOOL

Dean, WILLIAM MCPHERSON

There is no question but that the Graduate School has had a successful year. The progress in some directions has not been as marked as one would have liked, and there have been disappointments, but time is an essential element in bringing to fruition any great undertaking.

The attendance increased from 1539 in 1926-27 to 1781, and the number of degrees granted from 253 to 302. Growth in numbers, however, is a matter of minor importance, and, indeed, is sometimes to be deprecated. The real criterion is growth of the spirit of research and of appreciation of scholarly work on the campus, and in these respects there has been a noteworthy advance. Moreover, there has been everywhere a fine spirit of cooperation on the part of all the members of the instructional staff in every project of importance in the upbuilding of the graduate work of the University.

### SPECIAL COURSES

In the report of the Dean of the Graduate School for the academic year of 1926-1927, attention was called to the adoption of two new courses in the field of Philosophy, so fundamental in character as to be of general interest to all graduate students irrespective of their fields of specialization. These courses were: Philosophy 805, *Scientific Method*, offered by Professor Sabine; and Philosophy 806, *Epochs in the History of Thought*, offered by Professor Leighton. They were given for the first time during the present academic year, and our expectations concerning them were more than realized. A third course on *College Teaching*, by Professor Bode, drew a large class of students who were most enthusiastic and appreciative for the opportunity offered to discuss methods of vital importance to them in their chosen profession, under the leadership of a Master. Professors Bode, Leighton and Sabine all carried these courses in addition to their regular work—an example of the fine spirit manifested by all those interested in the advancement of the scholarly work of the University. These courses will be offered annually.

### GRADUATE SCHOOL LECTURES

The custom of bringing to the University, temporarily, leading scholars, both of our own country and of Europe, has been continued during the present year. It is probable that there is no single unit of the program of the Graduate School that has played a greater part in the development of the spirit of scholarly work on the campus than the presence here from time to time of the great scholars in various fields of study. Especially outstanding this year was the course of ten lectures offered by Professor George Howard Parker, Professor of Zoology and Director of the Zoological Laboratory at Harvard University, on the general subject of "Evolution." The unusual interest in this subject, together with the fact that Professor Parker is not only a fascinating lecturer but one of the great authorities on the subject of "Evolution", made the lectures an epoch in the history of the Graduate School. In addition to Professor Parker, the following gave one or more lectures and

held conferences with the members of the instructional staff and graduate students:

Dr. Peter Manniche, Founder and Principal of the International People's College at Helsingfors, Denmark. Two lectures: "Grundtvig and His Views on Education" and "Danish Folk High Schools and the International People's College".

M. Desclos, Assistant Director of the "Office National des Universités et Ecoles Francaises." "Claude Monet."

Dr. G. V. Portus, Director of Tutorial Classes and Lecturer on Economic History at the University of Sydney, Australia, "An Australian Political Experiment."

Dr. Constantine Caratheodory, Professor at the University of Munich, Two lectures: "Relativity (Axioms)" and "Methods of the Calculus of Variations".

Dr. W. W. Lepeschkin, Professor at the University of Prague, Czechoslovakia, "Chemical and Physical Nature of Protoplasm."

Dr. Bailey Willis, Professor at Stanford University and President of the Geological Society of America, "Earthquakes."

Dr. Oscar Jaszi, formerly Professor of Sociology at the University of Budapest, and at present Professor of Sociology at Oberlin College. A series of three lectures on the general subject of "The Collapse of Austria-Hungary".

Dr. Ross Aiken Gortner, Head of the Department of Bio-Chemistry at the University of Minnesota. A series of four lectures under the joint auspices of the Graduate School and the Plant Institute as follows: "Proteins in the Lyotropic Series", "Colloid Chemistry in Relation to Vital Phenomena", "Certain Electro-kinetic Properties of Colloid Systems and Their Influence on Colloid Behavior", and "Chemical Problems Involved in Flour Strength."

Dr. Harold Glenn Moulton, noted economist and Director of the Institute of Economics at Washington, D. C. A series of four lectures as follows: "Will the St. Lawrence Waterway Project Lower Transportation Cost?" "Shifting Views on Reparations and Interallied Debts", "Economic Aspects of Reparation and Debt Problems", and "Suggested Solutions of the War Debt Conundrum".

Dr. Carlton J. H. Hays, Professor at Columbia University, "Nationalism in the Schools".

Dr. Ferdinand Schevill, Professor of History at the University of Chicago. A series of five lectures on the Italian Renaissance.

Dr. Herbert M. Evans, Head of the Department of Anatomy at the University of California and discoverer of Vitamins E and F. "The Function of the Anterior Hypophysis".

Dr. E. C. Hills, Professor of Classical Languages at the University of California. Two lectures: "An Outline of the Development of Latin in the Romance Languages", and "Some Unsolved Problems in the Poem of the Cid".

Dr. Paul Alexandroff, Professor at the University of Moscow. "Analysis Situs".

Dr. G. Cario, Lecturer at Princeton University under the International Education Board. Two lectures: "The Auroral Green Line" and "Collisions of the Second Kind".



## MONOGRAPHS

During the year the Graduate Council authorized the printing of the following monographs, representing the results of investigations made in the University:

1. *The Apparent Weight of Colors*, by Berthe Couch Koch
2. *Negroes in Columbus*, by Mary Louise Mark
3. *The Influence of Beaumont and Fletcher on Restoration Drama*, by John H. Wilson
4. *The Versification of Robert Browning*, by Harlan H. Hatcher

In order that a manuscript may be accepted by the Graduate Council for printing in the form of a monograph, it must receive the sanction of three authorities in the field of study in which the subject lies. There is no doubt that the above manuscripts constitute a distinct contribution to the different subjects treated.

There has been the closest cooperation between the University Press and the Graduate Council. The Council has turned over to the University Press certain manuscripts for which it is believed there will be a sufficient demand to pay the expenses of publication, and has paid out of its own fund for others, for which, although scholarly in character and highly deserving of publication, there would be no extended sale. These monographs are also used in exchanging for similar monographs published by other universities, not only in our own country, but in Europe, and are therefore the means of large additions of noteworthy publications to our library.

## ASSISTANCE RENDERED DIFFERENT MEMBERS OF THE INSTRUCTIONAL STAFF

Whenever possible the Graduate Council, from the limited funds available, aims to render assistance to members of the instructional staff engaged in important studies. It is really surprising to know how much one can accomplish in this way with even the limited sum of money available. It would seem that the encouragement and sympathy of the Council really catalyzes the instructor's efforts and accomplishes quite as much as the money appropriated. Among those who have received financial assistance during the year are the following:

1. Professor W. L. Evans: student research assistant provided to assist Professor Evans in his investigations in the field of Carbohydrate Chemistry.
2. Professor G. H. McKnight: student assistant for copying manuscripts of a new book shortly to be published.
3. Professor A. C. Cole: student assistant to aid in making certain tabulations in connection with Professor Cole's historical researches.
4. Professor G. O. Russell: certain special apparatus required for Professor Russell's outstanding investigations in the field of phonetics.
5. Professor M. B. Evans: photostats of old manuscripts found by Professor Evans in Lucerne, Switzerland.
6. Professor E. Mack: drawings used in preparing for publication the results of investigations on the dimensions of molecules.
7. Professor R. C. Osburn: apparatus used in his studies of fishes.
8. Professor A. B. Wolfe: Student Assistant to help tabulate certain data of importance.
9. Professor J. R. Hopkins: student assistant provided.
10. Professor A. S. Watts: certain apparatus required in an investigation on fusions.

In addition to the above a number of special books of interest to advanced students were added to the library.

#### SCHOLARSHIPS AND FELLOWSHIPS

The number of applicants for Scholarships and Fellowships is increasing from year to year. Moreover, the character of the applicants is of a higher type. It is always a debatable question as to what percentage of our limited appropriation should be spent for this purpose. The number of University Scholarships and Fellowships which we offer is far less than the number offered by other large universities. Many of the universities, especially the older ones, have a number of fellowships endowed by friends of the university. So far we have only two such fellowships, namely, those founded in memory of Professor S. W. Robinson and Professor N. W. Lord. An effort should be made to increase the number of these endowed fellowships. The Graduate Council in very strong terms renews its recommendation for establishing a limited number of fellowships to be open only to members of the instructional staff of Ohio colleges. The arguments in favor of such fellowships have been presented from time to time and it is not necessary to repeat them here.

#### SUPERVISION OF RESEARCH WORK

During the year, the Dean of the Graduate School has spent all the time he could possibly spare in visiting the various departments and conferring with the members of the staff who are carrying on research work. These visits were of great value to the Dean, giving him some insight into the character and extent of the research work in progress on the campus. It is believed that they were also of value to the members of the staff, for the visits were made in a sympathetic spirit, and in a number of cases it was possible to give material help where help was badly needed for the success of the research. It is hoped that next year the Dean may be able to spend a larger percentage of his time in conferences of this character.

#### THE LIBRARY

The importance of an adequate library is self-evident. It is one of the foundation stones of any reputable Graduate School. Moreover, the University that does not have an adequate library will always be at a disadvantage in securing outstanding additions to its staff, for no great scholar can ever be persuaded to join a university that is not adequately equipped with the tools that will enable him to carry on his study. I have stressed the importance of the library so often that I hesitate to say anything further. May I, however, in this connection quote briefly from two great scholars. The first is from Professor B. R. Buckingham, who speaks from the standpoint of a member of the University staff engaged in research.

The Graduate Council should lay the greatest emphasis that the present budget would permit or the generosity of the legislature would subsequently allow to the development of the library. We lag dismally behind every university with which we are willing to compare ourselves. The library, in my judgment, is the most accurate gauge that can be applied to measure the devotion of the university to its job of teaching and research.

The second quotation is from a statement made by Dean Guy Stanton Ford of the University of Minnesota and has to do with the practical side of the purchase of books.



If any Graduate School or University official is in the complacent opinion that time will remedy the weak spots in his library, he is blind and deaf to the book market as it is today. Time may be necessary, but it is an expensive element. The number of sets of great works, publications of learned societies, scientific periodicals of long standing, not already located in some institutional libraries, is limited. In some cases they may be counted on the fingers of one hand. As the years go by the sets are less perfect, less complete, and the price higher.

The above statement was made by Dean Ford fifteen years ago. Its truth today is far more evident than it was then. Every year that passes finds the supply of one or more outstanding journals exhausted. It is for this reason that our University cannot afford to be backward in adding largely to its library appropriations and to use every possible effort to secure those sets that are absolutely essential in every adequate university library.

#### LIBRARY AND EQUIPMENT APPROPRIATIONS

Because of its great interest in the library and equipment appropriations, the Graduate Council was asked to make recommendations for the purchase of books and research apparatus to the extent of several thousand dollars. The Council took this request very seriously and I am sure that its recommendations were based on a very thorough knowledge of conditions. Each member of the staff requesting the purchase of books or of apparatus was invited to appear before the Committee of the Council and to discuss the work being carried on and the needs for its completion. It is one thing to make a request in writing for apparatus or books in a general way; it is quite another thing to appear before a committee to discuss these needs. With the limited amount of money available, the greatest precaution should be taken to see that the money is spent where it will do the most good. It is believed that the method referred to above accomplishes this end.

#### CHANGES IN THE REQUIREMENTS FOR THE MASTER'S DEGREE

The Master's Degree is recognized as one of the most important requirements for advancement in position in our public schools. The result is that the number of applicants for these degrees has been greatly increased. This increase has made necessary some changes in the requirements for the degree. These changes are really not desirable, but are forced upon the universities because of the great numbers of applicants for the degree. I refer especially to the requirement of a thesis and of a final oral examination. Our own University has always required both the thesis and the final examination. During the year, however, the Graduate Council modified the regulations to the extent that students of outstanding record may be excused from the final oral examination for the Master's Degree, on the recommendation of the appropriate department and the approval of the Dean of the Graduate School. The thesis requirement may also be waived under the same conditions. It should be added, however, that the thesis requirement is one that has never been set aside except under very unusual conditions, and this custom will be maintained.

#### THE GRADUATE SCHOOL AND RESEARCH WORK

The Graduate Council has many and varied duties. The Council, however, believes that its chief function is to foster in every possible way the scholarly work of the University and the spirit of research. If this spirit exists, the research work of the various departments will thrive and be effi-

cient. If it does not exist, work cannot go on. The spirit catalyzes the entire work of the University. In this respect the Graduate School exerts a most important effect upon the work of the whole University. "The function of the Graduate School throughout the University is to enliven the spirit of instruction, to keep it fresh and growing, and to prevent the inroads of the moth and rust that are bound, if let alone, to affect the treasures of learning, as well as the more material treasures of earth. The Graduate School is a vivifying force, not alone to the University of which it is a part, but to the whole system of education upon which it is based".

President Butler of Columbia University in one of his reports states:

So long as the spirit of research dominates the University and is its major interest, just so long will its teaching be kept fully alive, and just so long will its public service be real and vitalizing. To organize and stimulate research, therefore, is the University's chief business.

There is no question but that the spirit of research is increasing in our own University, and to its growth I can pledge the energies of the Graduate Council.

In conclusion, I wish to express my warm appreciation of President Rightmire's sympathetic interest and help in all that pertains to the welfare of the Graduate School, and of the outstanding cooperation of all the members of the Graduate Council in bringing to fruition plans of the greatest importance to the growth of the Graduate School.



## ENTRANCE BOARD

BLAND L. STRADLEY, *University Examiner*

## STATISTICS

The grand total of admissions to the University for the school year 1927-28 was 6543. This number includes inter-college transfers and is an increase of 410 over the grand total for the year 1926-27. This is about the usual normal increase. The percentage of increase is greatest in the number of advanced standing students and graduate students admitted. We admitted 852 students to the Graduate School in 1927-28 as compared with 757 in the year 1926-27 (an increase of 95, exactly the same increase as made in the previous year). We admitted 1094 students with advanced standing this year as against 949 last year (an increase of 145, or an increase of 24 greater in advanced standing students this year than in the previous year). During 1927-28, 3073 students were admitted from accredited secondary schools and 3022 during the year 1926-27. In the current year, 24.4 per cent, or 752, high school freshmen came from the local high schools, while 26.1 per cent, or 789, came from local high schools the previous year.

## COMPARATIVE ADMISSION STATISTICS

	New Students		Transfers		Totals	
	1927-28	1926-27	1927-28	1926-27	1927-28	1926-27
Agriculture .....	318	332	59	59	377	391
Agriculture-Education .....	0	0	1	0	1	0
Agriculture-Veterinary Medicine .....	0	0	2	0	2	0
Applied Optics .....	15	5	6	3	21	8
Arts .....	1477	1313	214	174	1691	1487
Arts-Commerce and Administration.....	0	0	3	1	3	1
Arts-Dentistry .....	0	0	0	1	0	1
Arts-Education .....	23	23	48	46	71	69
Arts-Engineering .....	0	0	2	1	2	1
Arts-Law .....	0	0	29	25	29	25
Arts-Medicine .....	0	0	7	3	7	3
Commerce and Administration.....	804	850	218	201	1022	1051
Commerce and Administration-Law....	0	0	2	0	2	0
Dentistry .....	35	31	74	39	109	70
Education .....	1078	983	278	239	1356	1222
Engineering .....	587	673	41	27	628	700
Law .....	50	50	67	85	117	135
Medicine .....	45	35	57	68	102	103
Pharmacy .....	80	68	11	14	91	82
Veterinary Medicine .....	42	22	15	4	57	26
Graduate School .....	559	470	293	287	852	757
Graduate School-Medicine .....	0	1	3	0	3	1
Totals .....	5113	4856	1430	1277	6543	6133

A study of the admissions to the various colleges indicates a decrease in admissions to the College of Agriculture, Commerce and Administration, Engineering, and Law. The College of Agriculture, which showed only a slight change in the number of admissions last year, shows a decrease of 14 in the admissions this year. Applied Optics, which was in the decreased admissions column last year, shows an increase of 13 admissions this year. The increase

in admissions to Pharmacy this year is greater than the decrease was last year. On the other hand, the Colleges of Commerce and Administration, Engineering, and Law have moved over to the decreased admissions column. The extremely large growth of the College of Commerce and Administration last year is balanced somewhat by the slight decrease this year. The decrease in admissions to the College of Engineering this year is about the same as the increase in admissions was last year. The decrease may be due to the admission requirements in mathematics, languages, and science which are being stringently enforced, making it necessary for some students not eligible for the College of Engineering to enter the College of Liberal Arts. The decrease in the College of Law admissions is due, in all probability, to the enforcement of the requirements of ninety quarter hours of work in an accredited college and a point average of two. The increase in the number of admissions to the Graduate School has been commented upon.

The noteworthy increases in admission will be found in the Colleges of Applied Optics, Liberal Arts, Dentistry, Education, Pharmacy, and Veterinary Medicine. The extremely large growth in admissions to the College of Dentistry may be accounted for by the fact that it was the last year in which students were eligible for admission upon the basis of only one year of work in an accredited college. We should anticipate a decrease in the annual report next year of admissions to the College of Dentistry as the two-year requirement will be enforced.

#### ENTRANCE CONDITIONS

The following table shows the conditions imposed on the freshmen in 1927-28:

CONDITIONS IMPOSED ON FRESHMAN CLASS, 1927-28 BY SUBJECTS AND COLLEGES

College	Algebra	Plane Geometry	Solid Geometry	Physics	Science	English	Foreign Language	American History	Civil Government	Total Conditions	Number of Freshmen Conditioned	Total Freshmen	Percentage of Freshmen Conditioned
Appl. Op.....	1	..	..	..	..	..	..	..	..	1	1	1	100.
Arts .....	9	117	..	..	10	..	..	1	1	138	71	1085	6.54%
C. & A. ....	19	5	..	..	10	..	....	1	1	36	74	618	11.97%
Education ....	18	69	..	..	1	2	..	..	..	90	70	567	12.34%
Engineering ..	60	1	89	43	..	..	73	2	2	270	217	481	45.11%
Pharmacy ....	1	2	..	..	..	..	..	..	..	3	2	59	3.38%
Totals .....	107	195	89	43	21	2	73	4	4	538	435	2811	15.47%

The Colleges of Agriculture and Veterinary Medicine are not imposing conditions this year. The percentage condition is about the same in all of the other colleges. We find a gratifying decrease of conditions in the College of Engineering, for example, a decrease of 37 in Physics, 57 in Solid Geometry, 13 in Plane Geometry, 22 in Foreign Languages, and the conditions in Algebra decreased by a half. The conditions in Plane Geometry in the College of Commerce and Administration have decreased from 60 to 5. On the other hand, conditions in Plane Geometry in the College of Liberal Arts have doubled. This is probably due to the number of applicants for admission to the College of Engineering who are not eligible because of conditions and therefore, are,



placed in the College of Arts. The total number of conditions imposed has decreased 208. The greater percentage of students attempting our entrance examinations in Plane Geometry fail.

#### ENTRANCE EXAMINATIONS

The number of entrance examinations which must be given each year is decreasing because the conditions imposed are decreasing. Few students apply for admission upon the basis of entrance examinations alone. The percentage of applicants who succeed in gaining fifteen units for admission by the entrance examinations is small.

#### CLASSIFICATION OF FRESHMEN BY HIGH SCHOOL GRADES

	Number of Freshmen	Upper		Middle		Lower	
		No.	Per cent	No.	Per cent	No.	Per cent
Agriculture .....	224	64	28.57	129	57.59	31	13.84
Applied Optics .....	12	2	16.67	7	58.33	3	25.00
Arts .....	1085	292	26.91	549	50.60	244	22.49
Arts-Education .....	20	11	55.00	7	35.00	2	10.00
C. & A. ....	618	143	23.14	343	55.50	132	21.36
Education .....	567	232	40.92	277	48.85	58	10.23
Engineering .....	470	156	33.19	250	53.19	64	13.62
Pharmacy .....	61	9	14.75	33	54.10	19	31.15
Vet. Med. ....	32	4	12.50	22	68.75	6	18.75
Totals .....	3089	913	29.56	1617	52.35	559	18.09

It will be noted that the colleges having the highest percentage of freshmen in the upper third of the high school class scholastically are the Colleges of Education and Engineering. We believe this to be due to the strict admission requirements. The College of Education requires a specified psychological test rating. The College of Engineering specifies certain courses for the high school requirements.

The University Examiner feels it would be inappropriate for him to analyze this table further.

#### ADMISSION OF STUDENTS TO PROFESSIONAL COLLEGES

The Entrance Board has conformed to the requirements governing admission to professional colleges.

*College of Medicine.* Because of lack of clinical facilities, the enrollment of the freshman class in the College of Medicine has been limited to one hundred freshmen. The selection is based upon scholarship, character, and general fitness. We had a large number of applicants for admission to the freshman class. Because of the increased number of applicants we require a higher point average for admission. Practically every one admitted last year had a point average of at least 2.5. About 35 per cent of the freshmen were men and women with degrees, 45 per cent were three-year students, and 20 per cent were two-year students. The two-year candidates had splendid academic records, many of them have point averages of 3. The Entrance Board feels that the more mature men who have spent three or four years in pre-medical work and have had the opportunity to pursue other cultural subjects, as well as subjects of a scientific nature, have greater professional

promise in the College of Medicine than the men who have pursued the two-year pre-medical course. In selecting our hundred freshmen, we aim to give first consideration to residents of the State of Ohio.

Upon examination of the records of students prepared in this University, the University Examiner feels that the pre-medical students are putting forth more effort in order that they may meet the requirements. It has been said that when you raise the requirements for admission, the students generally meet them, and I believe this to be true.

The students declined for admission were advised to continue pre-medical work for the purpose of securing more commendable academic records. Though disappointed, these students seemed very willing to continue another year in order to satisfy the requirements for admission to the College of Medicine and several have applied for admission to the College of Medicine this next Fall upon the basis of the additional year in pre-medical work.

*College of Dentistry.* This Autumn the requirements for admission to the College of Dentistry will include two years of pre-dental work. The class to be relatively small due to this additional pre-dental work. A point average of two will be enforced in determining eligibility for admission to the College of Dentistry.

*College of Law.* The Faculty of the College of Law has instructed the Entrance Board to require for admission to the College of Law a point average of two. The requirement for admission includes two years of college work. We should secure a better freshman class in the College of Law this year by enforcing these requirements.

#### ADMISSION OF STUDENTS FROM OTHER COLLEGES TO THE OHIO STATE UNIVERSITY

During the past year the Entrance Board has declined to accept 234 students from other colleges because they failed to comply with Section 7 Rule 140 which pertains to admission of students to advanced standing from other colleges. The rule is, "Students must have at least average academic records to gain admission to advanced standing." We have declined nine more students this year than during the previous year. In declining these students, we have advised them to return to the colleges where they have been enrolled for the purpose of securing more commendable academic records.

A small percentage of these students (5 per cent) were declined because of other reasons than poor scholarship alone, for example, disciplinary, honor court actions, etc.

The number of students admitted to the University with advanced standing in 1927-28 was 1094 as compared with 949 in 1926-27 and 925 in 1925-26.

#### VOLUME OF CORRESPONDENCE

Although a great many applicants for admission come to the University and are admitted in person, we admit most of our students by correspondence. Because of this, we handle a large volume of correspondence. In the last year, we answered, in most instances by personal letters, 37,355 letters with regard to courses of study, entrance requirements, cost of instruction, and other matters of importance and interest to the prospective students. This was an increase of 2609 letters over the total handled last year.

Some universities have used the form letter but we have tried to give personal attention to personal inquiries. The large university is often criti-



cized because of the lack of personal contact. We feel that the receipt of a personal letter from the University Examiner in answer to the first inquiry regarding the applicant's future college has a tendency to offset this feeling of lack of personal relationship.

#### DISTRIBUTION OF BULLETINS

The Entrance Board handles mail pertaining to the University bulletins and addresses all the bulletins which are forwarded. Requests for bulletins are forwarded to the office of the Entrance Board where the letters are read, proper bulletins selected (if not named), and envelopes are addressed on the typewriters. A postal card is forwarded to the addressee advising him that the bulletin which he requested has been forwarded under that date. The Mailing Department then posts the indicated bulletins in the addressed envelopes.

During the year 1927-28 we cared for 30,461 such requests. The distribution of the bulletins mailed is as follows:

Agriculture .....	1354	Lake Laboratory .....	49
Applied Optics .....	125	Summer Session .....	3537
Arts .....	3313	Social Administration .....	124
Commerce and Administration .....	2139	Journalism .....	325
Dentistry .....	547	Nurses Training Course .....	222
Education .....	2559	Time Schedule .....	3700
Engineering .....	1681	University Directory .....	10
Graduate School .....	1411	Winter Agriculture .....	14
Law .....	547	Annual Report .....	3
Medicine .....	642	Fine Arts .....	79
Pharmacy .....	403	Music .....	104
Veterinary Medicine .....	512	Teaching Staff .....	5
General Catalog .....	499	Dalton Plan .....	217
General Information .....	6273	Building and Loan Practices .....	67

#### INSPECTION OF COLLEGES

In the State of Ohio, we have sixteen unaccredited institutions engaged in college work. Since these colleges are not accredited by any of the standard accrediting agencies, such as the Ohio College Association and the North-Central College Association, it is necessary for these sixteen schools to establish credit relations with The Ohio State University through some other channel. In order to determine the value of credits transferred from these colleges to The Ohio State University, in the cases of students transferring, the Entrance Board must be familiar with the work of the unaccredited schools. When a student transfers from one of these colleges to some other college within or without the State, The Ohio State University is requested to furnish information concerning the standing of the unaccredited Ohio college. To be in a position to furnish this information, the Entrance Board of The Ohio State University must be familiar with the standards upheld by the small unaccredited colleges of our State.

*President's Committee.* During the last year, a committee appointed by the President composed of Dr. E. E. Lewis, Dr. Felix Held, and the University Examiner visited Wilberforce University and Wilmington College. Reports of these inspections were made and were used for purposes already stated. In addition to these inspections, many conferences have been held with the Presidents, Deans, and committees representing these colleges concerning credit relations and standards. The Entrance Board and the committee named above have manifested a helpful spirit, and I am glad to inform

you that there is a happy relationship existing between all of the small unaccredited colleges and The Ohio State University.

*Ohio College Association.* The University Examiner is Chairman of the Committee on Membership and Inspection of the Ohio College Association. This committee is composed of the following members:

B. L. Stradley, University Examiner, The Ohio State University, Chairman.

D. T. Schoonover, Dean, Marietta College.

F. W. Chandler, Dean, University of Cincinnati.

G. F. Zook, President, University of Akron.

B. E. Cartmell, Treasurer, Ohio Wesleyan University.

This committee visited the following institutions during the past year and reported the findings of the visitations at the last meeting of the Ohio College Association:

Ohio Northern University, Ada, Ohio.

Mary Manse College, Toledo, Ohio.

Defiance College, Defiance, Ohio.

Capital University, Columbus, Ohio.

In addition to these inspections, a number of conferences have been held with the Presidents and Boards of Trustees of the Ohio colleges which are not members of the Association concerning higher standards and the possibility of gaining credit relations with the Ohio College Association.

Within the last year, a committee composed of Dr. W. O. Thompson, Dr. Frederick Lumley, and the University Examiner visited the Youngstown Y. M. C. A. Junior College. This visitation was made upon the request of the director of the Y. M. C. A. Junior College and the committee was appointed by the President of The Ohio State University. It may be of interest to state that Youngstown is the only large city in Ohio without a college. This institution was organized a year ago and 105 students entered the freshman year. On the basis of this inspection, definite credit relations between the Youngstown Y. M. C. A. Junior College and The Ohio State University have been arranged.

Since the death of the President of Wilmington College, the following committee has been asked to counsel with the Board of Trustees to discuss the advisability of reorganizing Wilmington College on a junior college basis:

G. F. Zook, Akron University.

E. E. Lewis, The Ohio State University.

B. L. Stradley, The Ohio State University.

*North-Central Association.* The University Examiner of The Ohio State University was appointed by the North-Central Association last year to be its representative in the inspection of Marshall College, Huntington, West Virginia, and the University of Dayton, Dayton, Ohio. These inspections were made by the University Examiner and reports were prepared for the North-Central Association. Dr. W. F. Cunningham, of Notre Dame University, was named also by the North-Central Association to assist in the inspection of the University of Dayton. Both of these colleges were admitted to the North Central Association upon the basis of reports submitted by the inspectors.

As the leading educational institution of the State of Ohio, The Ohio State University is expected to place a value upon the work of the small unaccredited colleges within the State and furnish this information to the



North-Central Association, as well as to other colleges throughout the United States. This means that this University must accept a large responsibility to the unaccredited small colleges and to the universities making inquiries. It is customary for the State universities to accept this responsibility.

The Entrance Board wishes to take this opportunity to thank the President for making it possible to provide this service for the colleges in Ohio. It is through this service that these colleges establish credit relations, not only with The Ohio State University, but with other colleges in Ohio and throughout the United States.

## UNIVERSITY LIBRARY

MAUD JEFFREY, *Chairman, Library Cabinet*

## ADMINISTRATION

On July 1, 1927 the administration of the University Library was formally taken over, at the request of the President, by a Library Cabinet, functioning under the direction and advice of the President.

The Cabinet was composed of the heads of the four departments of the library organization: Miss Edna E. Davis, Supervisor of Department Libraries; Miss Maud D. Jeffrey, Reference Librarian; Miss Gertrude S. Kellicott, Accessions Librarian; and Miss Bertha M. Schneider, Catalog Librarian. Upon the recommendation of the President a chairman was chosen for the signing of requisitions and the transacting of the formal business of the Library.

The Library Cabinet has met regularly twice a week during the past year for the transaction of business and the discussion of such matters as pertained to the Library activities and administration. The minutes of these meetings have been written up by the Secretary of the Cabinet, Miss Gertrude S. Kellicott, so that there is an accurate record of all matters transacted during the year.

## STAFF

A number of changes in the personnel of the Library Staff have been made during the past year.

Miss Edna E. Davis left the Reference Staff to become Supervisor of Department Libraries.

Miss Laura C. Case was appointed to the staff of the Accessions Department in February 1928, succeeding Miss Clara Werther who resigned.

Miss Jeanette Burrell, Miss Mildred Dillingham, and Miss Eleanor Graves were appointed to positions on the staff of the Catalog Department.

Miss Elizabeth Marshall, Miss Lela A. Sinkey, and Mrs. Grace Taylor were appointed as librarians in the Lord Hall Library, Medical Library, and Orton Memorial Library, respectively. Mrs. Josephine Hoffman was appointed as assistant in the Education Library. Miss Helen Ewing was appointed as an assistant to the Supervisor of Department Libraries.

Miss Georgiana Brawley, Mrs. Marie Downes, Mr. William R. Janeway, and Miss Esther Stroedter were appointed to the Reference Staff.

## APPROPRIATION

The Special appropriation for books for the University as given in the legislative budget for 18 months, July 1, 1927 to December 31, 1928 is \$60,000, or \$40,000 less than for the previous two years. This cut in funds has been keenly felt in all departments, since some of the amounts allowed were necessarily pitifully small in comparison to the needs. It is to be hoped that the the library appropriation will go back to the \$100,000 which the Library has had for two biennia, or perhaps be brought up to even a higher figure, in order to place the Library of the Ohio State University in its rightful place with other institutions.



## ACCESSIONS

The report of the Accessions Librarian shows 16,300 bound volumes accessioned during the year. This total includes all books bought from Special Appropriations and Endowments as well as Gifts, Replacements, Exchanges, and Theses. It is of interest to note that of the entire number of volumes accessioned, 12,617 are in English and 3,683 are in foreign languages.

A detailed analysis of the division and expenditure of the library funds is shown in the full report of the Accessions Department and makes an interesting study of the manner in which the funds have been spent.

Following is a list of the important titles that have been added to the Library during the past year.

First from the Graduate Council appropriation of \$7,000.00.

Great Britain Parliamentary Papers	\$2,000.00
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*Individual titles:*

- Academie Polonaise des sciences
  - Bulletin international de,
  - Complete through 1922
- Aeronautical society and its successor, Royal Aeronautical Society
  - Publications. Complete
- American institute of cooperation, 1924 volumes
- Annales de geographie
  - Complete
- Archiv für dermatologie und syphilis
  - Complete
- Archiv für rassen und gesellschaftsbiologie
  - Complete (except 1 volume)
- Behavior monographs (duplicate set)
  - Complete
- California, University
  - Publications in American archaeology and ethnology
- L'economiste francaise
  - Complete through 1923
- Forstwissenschaftliche centralblatt
  - Complete through 1914
- Gesellschaft der wissenschaften zu Göttingen
  - Mathematisch-physikalische klasse
  - Nachrichten. 1894-1905
- Philologisch-historische klasse
  - Nachrichten. 1894-1905
- Gesellschaft deutscher naturforscher und ärzte. Verhandlungen
  - Vs. 64-85. 1890-1913
- Journal of education (duplicate set)
  - Vs. 1-14 1920-1926
- Milchwirtschaftliche forschungen
  - Vs. 3-4. 1925-1927
- Optical society of London. Transactions
  - Vs. 1-27 (some lacks)
- Revue des etudes anciennes
  - Vs. 1-29. 1899-1927

Revista di filologia et di istruzione

Vs. 1-56. 1873-1927

Societe d'economie politique

Vs. 1-16. 1846-1887

The following departments, granted Graduate School Funds, spent their appropriations for individual titles.

Electrical engineering

English

German

Mathematics

Psychology (duplicates)

Romance Languages

The general Library Fund was allowed \$9,000.00.

Following is a list of some of the notable titles for which part of this fund was spent:

- |     |  |           |
|-----|--|-----------|
| (1) | Herd books for Professor Plumb .....                       | \$ 300.00 |
| (2) | Survey books for History .....                             | 121.00    |
| (3) | Duplicate educational periodicals for main collection..... | 1,000.00  |
| (4) | Final payment of the Union List of Serials.....            | 300.00    |
| (5) | Individual titles:   |           |

Catalogue of Harleian Mss. in British Museum

Ecole francaise de Rome. Helanges d'archaeologie

Encyclopaedia Britannica

France. Catalogue des theses

Groves. Dictionary of Music

Hearn. Writings

Hunter. Primitive paper making

Kommunales jahrbuch

Mental hygiene

National cyclopedia of American biography

P. A. I. S. Bibliographies, Miscellaneous

Societe des nations, Annuaire de la

Stammhammer. Biobiographies of finance, social science, political economy

A fund of \$4,000.00 was set aside to be used by the Library Cabinet to "fill in" lacks in our periodical sets.

Following is a list of the titles for which the money was expended:

Great Britain Parliamentary papers, \$2,000.00

*Individual titles:*

American museum of natural history

Memoirs

California, University of

Publications in American archaeology and ethnology

Canada law journal

Chemist and druggist

Fortschritte der physik

Gesellschaft deutscher naturforscher und ärzte

Verhandlungen

Histoire litteraire de la France

Journal of comparative pathology

Litterarischen Vereins Stuttgart, Bibliothek



London, Edinburgh and Dublin. Philosophical magazine 4th series  
 Mercure de France. Series moderne  
 Milchwirtschaftliche forschungen. vs. 1-2  
 National society for the study of education  
 Yearbooks  
 Naturaliste Canadien  
 Naturwissenschaftlicher verein, Karlsruhe  
     Verhandlungen  
 Nautilus  
 Niemeyers' zeitschrift für internationales recht  
 Oelmotor  
 Poetry (Chicago)  
 Praktische ergebnisse der geburtshilfe und bynakologie  
 Revue de droit international et de legislation comparee  
 Revue d'histoire ecclesiastique  
 Revue generale de droit international public  
 Revue d'histoire ecclesiastique  
 Revue generale de droit international public  
 Societe d'economie politique, Bulletin  
 Wiener beitrage zur englischen philologie  
 Zeitschrift für angewandte entomologie  
 Zeitschrift für infektionskrankheiten  
 Zeitschrift für pflanzenkrankheiten  
 Zeitschrift für schweizerische statistik  
 Zoologisch-Botanische gesellschaft in Wien  
     Verhandlungen

Besides there was a long list of scattered volumes. The Union List of Serials has aided greatly in filling-in many of our incomplete sets. This year we were considerably handicapped, as our fund was one-half spent on one title — Great Britain Parliamentary Papers.

From Replacement Funds the library has ordered 740 volumes, 597 of which have been received. The replacing of lost and mutilated copies of periodicals has taken \$350.00 of the Replacement Fund.

#### PERIODICALS

The amount of \$20,000 was set aside for a periodical fund. As the year has progressed it has been evident that this fund is inadequate for the library needs along this line. A quotation from the report of the Accessions Librarian shows the difficulties arising in the administration of this fund.

"As the year has progressed, it has proved that the amount of \$20,000.00 as set aside for our periodical fund is inadequate. In the first place, it will have to cover the subscriptions for two full years, as it is necessary to have in the hands of both our foreign and domestic agents our complete lists not later than the first day of October, and this means that we shall have to have an addition of at least \$5,000.00 to cover these bills.

"The reasons for this additional appropriation are several. In the first place, a great majority of the publishers have raised their subscription price. Particularly is this true of the German titles. Another cause is the fact that many new titles have been added as "automatics," that is, when either Graduate Council or General Funds purchase new sets of periodicals, the current subscription is automatically placed against the General Periodical Fund. May

we say in passing, that practically no new titles have been added during this year, other than these automatics. All of the above applies only to our General Periodical Fund and not to periodicals paid for from Departmental appropriations."

There are now being checked in the Periodical Room of the Library 2,456 periodicals, 1,952 of which are on the subscription list, 407 are gifts, and 97 exchanges.

Of the 2,456 titles, 1,858 are in the English language and 598 in foreign languages.

#### DUPLICATES

"Another phase of purchase is the number of titles ordered in duplicate, i.e., two or more copies of a given title, needed first for Reserve, either Main or Departmental, and secondly, duplicates for department collections."

The following gives the list of duplicates by colleges:

	<i>Number of Copies</i>	<i>Cost</i>
College of Law .....	378	\$1,065.21
College of Education .....	140	321.44
College of Medicine .....	21	74.03
College of Pharmacy .....	2	4.95
College of Veterinary Medicine .....	3	28.25
President's division .....	451	1,199.55
College of Agriculture .....	39	120.88
College of Commerce .....	65	189.99
College of Engineering .....	53	270.45
College of Liberal Arts .....	47	183.21
Graduate School .....	20	85.08
	<hr/> 1,219	<hr/> \$3,543.04

#### ENDOWMENTS

Following is a list of the endowment funds of the University Library:

##### *Clark Fund—*

Established in 1908	\$2,000.00
Professor Frederick C. Clark	Economics

##### *Coleman Fund—*

Established in 1913	\$500.00
Dr. N. R. Coleman	History of Medicine

##### *Orton Fund—*

Yearly gift of	\$500.00
from Lt.-Col. Edward Orton, Jr.	Geology

##### *Outhwaite Fund—*

Founded 1901	\$2,000.00
Joseph H. Outhwaite	Works in Civil War

##### *Pomerene Fund—*

Founded in 1921	\$5,000.00
Frank E. Pomerene	Political History

##### *Sharp Fund—*

Founded in 1922	\$17,000.00
Charles Cutter Sharp	Chemistry



*Siebert Fund—*

Founded in 1898

\$1,075.50

John and Louis Siebert

German History

*Vanderlip Fund—*

Founded in 1918

\$1,500.00

Frank A. Vanderlip

Education

*Wolfe Fund—*

Founded

\$550.00

Robert F. Wolfe

Journalism

## GIFTS

A list of donors is given in the report of the Accessions Librarian, classified as follows:

- (1) Ohio State University Faculty
- (2) Universities and colleges
- (3) Societies and institutions
- (4) Herd Societies
- (5) Individuals
- (6) Miscellaneous
- (7) Various classes, purchased by assessment of students

## RUSH TITLES

One of the matters which the Library Cabinet has had to consider at almost every meeting during the year was the lists of "Rush Titles" or books which were needed for special purposes, such as "Reserve," research, or reference work. After the titles are considered and approved by the Cabinet, these books are taken out of the regular order of receipt in the Accessions Department and are put ahead of other books for accessioning and cataloging, so that it is possible for the person needing the book to have it promptly. When the book is ready for use, the Reference Librarian notifies the person needing it that it is at the Loan Desk subject to his call. The Library Cabinet has considered and approved 1,488 rush titles during the year.

## BINDING

The report upon Binding for the University Library is given in full as follows:

During the fiscal year 5,604 volumes were bound; of these 2,027 were for the department libraries of the University and 3,577 for the general library. The increase in the number of new periodicals and sets has made it practically out of the question to make much headway in binding the many volumes which are in arrears from earlier years. There are approximately 30,000 volumes, excluding pamphlets, documents, and rebinds, which are in need of binding.

Much of our binding work is too valuable to send to outside binders where the work is being done on standardized machines which do not take into consideration folded plates, and narrow inner margins, which renders old and rare editions valueless. Our binding is more expensive than the commercial binding, but the result is a longer wearing book and undamaged contents.

At the present time the books are out of the library too long a time, due to a lack of operators for casing and lettering. The books are gone from the library from three to four months which means that practically 1,500 books or

more are unavailable to the readers, and this unfortunately represents the current periodical material. Another operator at the bindery would greatly increase the speed with which the books should be returned to the library.

## STATISTICS

*Binding—*

## In University bindery:

Books bound .....	5,403
Books repaired in Library .....	1,437

## Outside of the Library:

Books bound .....	325
Books repaired from Nov. 1—July 1 .....	363
Pamphlets bound from Nov. 1—July 1 .....	278

## CATALOG DEPARTMENT

The report of the Catalog Librarian shows a total of 24,295 volumes cataloged during the past year.

A total of 96,113 cards were added to the catalogs during the year, 51,946 of these being printed Library of Congress cards and 44,167 typewritten cards. The total number of cards added this year is 15,617 in excess of the number added in 1926-27. The Library has spent a total of \$951.59 during the fiscal year for Library of Congress Cards.

Concerning the special piece of work accomplished in the Catalog Department during the year the Catalog Librarian reports as follows:

"One piece of work has been completed this year that has been in progress for four years. It was the alphabetizing of the Depository Catalog of the Library of Congress. The Depository Catalog is an author one and consists of over 1,050,000 cards at the present time. It is one of the 57 complete depositories to be found in the world. In Ohio there are but two others, one in the Public Library and one in the Cincinnati Public Library. This catalog is invaluable in a large library and serves the following purposes:

1. It promotes bibliographical work.
2. It enables students and librarians to ascertain whether or not certain works are in the Library of Congress without making a trip to Washington or sending innumerable lists to the Library of Congress to be checked.
3. It promotes uniformity and accuracy in cataloging.
4. It enables libraries in the vicinity to order cards at a minimum of expenditure of labor and money since they are able to submit serial card numbers for these card orders.

There has had to be a large outlay of money to cover the expense of having the cards culled from the collection at Washington, to pay for the equipment of trays to house the catalog and to remunerate the filers and those who train and supervise them; but when it is remembered that the information on the cards represents the output of trained bibliographers over a period of more than 25 years, a work few libraries could do for themselves, it is realized what an extraordinary record it is."

In the fall of 1927 the collection of seventeenth and eighteenth century German books purchased upon the recommendation of Dr. M. B. Evans of the German Department were cataloged. There were 600 volumes in the collection,



which was bought from the stock of Hans Von Matt, a book dealer at Stans, Switzerland.

At the beginning of the year nothing had been done to the collection of orchestral scores given so generously by Mr. Hermann Brown of Columbus to the University Library. During the year over 140 scores have been cataloged and have been sent to the Music Department. The 100 incomplete scores which remain are to be kept in the Main Library and are to be cataloged this coming year.

#### BIBLIOGRAPHICAL TOOL

One bibliographical tool received this year is of inestimable value. It is the Union List of Serials in book form published by the H. W. Wilson Company. From March, 1924, through June, 1927, two of the best and most accurate catalogers in the Department checked lists of periodicals sent by the Wilson Company to show our holdings. While the record of holdings in the 225 libraries that cooperated in this venture is out-of-date now, the bibliographical information about the 75,000 serial entries is immeasurably valuable. It is one of the biggest pieces of cooperative effort ever undertaken by American libraries. A copy of this list is to be found in each department of the library and in the following department libraries: Botany and Zoology library, Chemistry Library, Commerce Library, Education Library, Medical Library, and Orton Memorial Library.

## DEPARTMENT LIBRARIES

## BOTANY AND ZOOLOGY LIBRARY

(ETHEL M. MILLER, *Librarian*)

The library contains 6,524 volumes, 317 volumes having been added during the year. There was a large increase of attendance over that of last year. This year it was 22,544, an increase of 8,450 over that of 1926-27. The present library quarters are very badly crowded. The old museum has been refitted for the library, but the room lacks equipment — shelving, catalogue files, typewriter, and other essentials. Unfortunately this removal to the old museum will only be a temporary relief, as supports were not erected to hold the steel stacks set east to west. These would have accommodated the library for several years to come. The librarian has undertaken, in addition to her usual duties, the exchange work in connection with the *Ohio Journal of Science*. Due to her careful and painstaking work the University Library is now receiving regularly the periodicals and serials which it is entitled to receive on the exchange basis.

## BROWN HALL LIBRARY

The number of volumes in the Brown Hall Library is 2,870, of which 132 volumes were added during the past year. The attendance for 1927-28 was 16,137, showing an increase of 3,575 over that of 1926-27. Three drawing tables were added to the equipment of the library during the year and also a vertical file for architectural plates. Beginning with the Winter Quarter this library was opened in the evenings.

## CHEMISTRY LIBRARY

The number of books added to the collection of the Chemistry Library was 306 volumes. The attendance in this library for 1927-28 was 26,871 showing an increase of 11,830 over that of 1926-27. At the beginning of the Autumn Quarter, the Chemistry Library will open in new quarters in the new Chemistry Building where ample accommodations are provided for books and readers.

## COMMERCE LIBRARY

(MILDRED V. WATSON, *Librarian*)

The library has added 1,024 volumes of books and pamphlets, besides a vast amount of ephemeral material which is placed in vertical files. The attendance for the year 1927-28 was 102,153, a gain of 26,254 readers over that of last year. The library has been filled to capacity during the autumn, winter, and spring quarters. It has produced a serious problem in the library; namely, the care of the coats and hats of the readers. During the autumn and winter quarters, especially, the library is made very untidy by having them deposited on tables, counter, etc. The library is sadly in need of an adequate map collection and facilities for taking care of it. I trust that this phase of the work will be considered with the new addition to the library.



## EDUCATION LIBRARY

(LOA EVELYN BAILEY, *Librarian*)

The Education Library contains 6,255 volumes, of which 1,163 were added this last year, and also about 12,000 unbound pieces. The unbound material consists of city and state school reports, bulletins, circulars, surveys, monographs, etc. The collection has had many additions through gifts of books and periodicals and other material from members of the educational faculty. The attendance for the year was 96,974. The books used in the library were 104,960.

The library was opened June, 1927, for work and the organization has gone forward throughout the year. The establishment of the Education Library has been faced with many difficulties. The budget was insufficient to purchase duplicates to any great extent. The files of the psychological periodicals and many of the educational periodicals were transferred. Several titles of the educational periodicals have been duplicated. The transfer of the material to the Education Library has been an exceedingly difficult one to adjust, on account of the type of material needed by the College of Education and also by other departments. Nevertheless we close the fiscal year with the Education Library having most of the basic sets in education and psychology and with the prospects of more to come. A dictionary card catalog is also nearly completed for this library. The librarian needs another full-time assistant to care for the unbound material which is accumulating so rapidly and which needs to be made available at once. A survey was made of the needs of the Education Library; a list of books needed for courses was checked both at the Main Library and the Department Library. It was a very extensive list and much time was consumed in checking it by the staffs both at the Education Library and at the Main Library.

## LAW LIBRARY

The number of volumes in the Law Library is 28,728, of which 1,231 volumes were added this last year. The attendance for the year was 75,762, an increase of 2,742, over that of 1926-27. During the last fiscal year a thorough inventory has been made and the losses carefully checked. Some of the most used books have been replaced, and the cards for the lost books will be withdrawn during the summer. Four hundred ninety-six volumes have been repaired or rebound, and 1,000 volumes have been treated with vaseline and varnish for preserving them. All the rest of the sheep-bound volumes should be treated likewise. In the near future it will be necessary to equip the stack room with steel stacks and provide a space for the rapidly increasing number of reserve books, which are now outgrowing their present quarters. The change of reserves would mean better supervision of stacks and greater efficiency in the administration of the library. The time has now come when we need a trained librarian who has had specialized training in law work, as the reference and bibliographical side of the library needs development.

## LORD HALL LIBRARY

The library has added 191 volumes to its collection during the year 1927-28. It has had an attendance of 6,413 readers which is a slight increase over that of last year. At the request of Dean Hitchcock the library was opened evenings during the Spring Quarter but it was poorly patronized.

## MEDICAL LIBRARY

The accessions for the year were 665 volumes. The attendance for the year was 16,541. There is a great need for an addition to this library which will provide ample space for books and readers. The library as equipped last year was found to be entirely inadequate for the present collection. The contemplated addition should be large and spacious enough to take care of its book collection for a ten-year period, and with room enough to provide for the proper spacing of the stacks. At the present time sets have to be split; the back volumes have been shelved at the Main Library, while the recent numbers are shelved in the Medical Library. The situation is growing more acute each year.

## ORTON HALL LIBRARY

To this library has been added 502 volumes of books and pamphlets besides many volumes of exchanges. The attendance was 35,257. During the winter an effort was made to fill in the gaps of the state geological surveys as far as possible. The list supplied by the geological surveys was checked and all material available for the files was requested. The result was not very satisfactory, as so much of the material was out of print.

The statistical reports of the department libraries are included in the report of the Reference Librarian.

## REFERENCE LIBRARIAN

During the past year the Reference Department has compiled a number of bibliographies, three of which were made in order to make certain of our resources in the literature of the drama more available to the users of the library. Others were sent out in answer to requests received by mail and several to high-school debating teams in Ohio. Just at the close of the fiscal year the Reference Department was asked to furnish the bibliography for the Ohio High-School Debating League for next year. Work was started upon it immediately and it is near completion at the present time. Work has been going forward since March upon a list of Ohio authors which is designed to be as comprehensive and authentic as possible.

## INTER-LIBRARY LOANS

As a service to members of the Faculty and Graduate students the University Library has borrowed from other libraries a total of 315 volumes for research purposes. There has been a remarkable increase in the number of books borrowed through the inter-library loan during the past year, as shown in the fact that the number borrowed this year almost doubles the number borrowed in 1926-27.

The University Library has loaned 319 volumes to 74 libraries during the past year, an increase of 71 volumes over the number loaned during 1926-27. Up to the past year most of our loans were made to Ohio colleges and libraries; but our record of loans for 1927-28 shows that we have sent books to 39 libraries out of the state, and to 35 libraries in Ohio.

A large number of requests have come to us since the completion of the Union Serial List which makes it possible for libraries to know of our research resources. There is an increasing demand also for Masters' Theses, especially for those written upon educational and psychological subjects.



## DOCUMENTS

The report of the Document Division of the Reference Department shows a total of 26,780 documents received during 1926-27, of which 11,632 documents were Federal publications, 7,675 state, municipal and university publications, and 4,644 miscellaneous publications. Documents totaling 1,232 were received to fill in lacks in our files.

## EXCHANGES

The whole matter of exchanges has been for some years — and still is — in an unsatisfactory condition. At present a copy of the stenciled address list of those to whom university publications are sent from the University Press is in the hands of the library for revision. Letters are being sent out to a list of colleges and universities asking certain questions as to their exchange policy. No accurate system of checking debits and credits has as yet been installed. With the appointment of Mrs. Miller as librarian of the Ohio Academy of Science, marked improvement was made in the records and receipts of exchanges through this medium. Her full report to the Academy is found in their Proceedings for 1927-28.

One hundred copies each of thirty doctoral dissertations have been received. On receipt of each, cards were made for the Library of Congress and two copies of each dissertation sent to that library, one to our Catalog Librarian, and one to the Graduate School. In addition to this, two shipments to thirty-four libraries have been made and there are now fifteen dissertations on hand to be shipped.

In 1927 at the very urgent request of the University Press a tentative list of the publications of the university up to that time was sent to them with the distinct understanding that it was merely a tentative list not ready for publication. This list was one which Professor Reeder, formerly in the Reference Department, had instituted and on which he had spent much time and research, this being the only compilation of the sort. After his resignation it was kept up by the documents division, with the hope that this might be the first of a series of "Contributions from the University Library." In May of this year a printed list bearing the title "Preliminary report, not for distribution. List of all publications of the Ohio State University 1896-1927" was received by the Library with a request for an inventory of all copies of material mentioned in this list and any corrections which seemed desirable. This inventory has been nearly completed.

## ATTENDANCE

The attendance for 1927-28 in all libraries on the campus was 1,012,011, showing an increase of 231,658 over that of 1926-27. The attendance for the Main Library for the year was 631,932 and for the department libraries 380,079.

## BOOKS USED

The total number of books used in all libraries in 1927-28 was 594,093, showing an increase of 110,918 over the number of 1926-27.

## CIRCULATION

The total circulation for all libraries on the campus in 1927-28, was 176,254, an increase of 112,893 over the total of 1926-27. The circulation at the Main Library for 1927-28 was 49,705 and for the department libraries 126,549.

During the past year the supervision of the work at the Loan and Delivery Desks was assigned to one of the Assistant Reference Librarians. Under this arrangement the efficiency of the work at these desks was materially increased. A few changes in the method of charging books and of filing slips at the Loan Desk have increased accuracy and speed in this work.

#### RESERVE BOOKS

The Reserve Book Division of the Reference Department reports about 5,000 books on the shelves of the "Reserve" reading rooms.

The statistics of the division show that 224,659 books were used during the year, an increase of 10,905 over the number for 1926-27. The largest number issued in one day was 1,902, in the Autumn Quarter, 1927.

In concluding this report, the members of the Library Cabinet wish to express their deep appreciation of the confidence which the President has placed in them and to thank him for the unfailing interest and sympathy which he has shown in all matters pertaining to the library.

The Cabinet also wishes to take this opportunity of expressing their appreciation of the cordial cooperation of the Library Staff. A remarkable *esprit de corps* has been evident, without which it would have been impossible to carry on the library activities successfully.

The Chairman of the Library Cabinet is deeply appreciative of the support and cooperation of the other members of the Cabinet throughout the year and especially of their invaluable help in the making of this report.



## DEPARTMENT OF PHYSICAL EDUCATION 1927-28

*Chairman, L. W. ST. JOHN*

The report for the year is chiefly one of progress and achievement, though representation is made as to certain outstanding needs of the department.

The work for which this department is responsible is properly classed as follows:

- I. Required Activities
  - (a) Men (Freshmen)
  - (b) Women (Freshmen and Sophomores)
- II. Hygiene Lecture Course
  - (a) Men
  - (b) Women
- III. Professional Teacher-Training Courses
  - (a) Men
  - (b) Women
- IV. Intramural Athletics
  - (a) Men
  - (b) Women
- V. Intercollegiate Athletics

Detailed reports for the various divisions are properly submitted by those directly in charge. Such observations and recommendations as I have to make may well be brief.

We have now brought our staff and facilities for the Women's Division to the best condition it has attained so far and believe it compares favorably with that of any university of similar grade. It is our belief that the requirement in Physical Education should now be raised. In 1920, there was a three-hour requirement in physical activity for women of the freshman class. Due to lack of facilities (before Pomerene Hall was built), this was reduced to two hours per week. This requirement should now be raised to three or even to four hours per week.

The required activities work for men is two hours per week for freshmen. This should be raised to three hours and a sophomore year requirement added. The second year's work would be largely taken care of by the Intramural program now offered. The difference would be that all of the men would be required to participate, whereas now only those men who have developed an interest in recreative sports take part. All too frequently the boys who need physical recreation most do not have the advantage.

Corrective and remedial work has been very well handled in the Women's Division and has reached the point where additional assistance should be given to this department.

The coming year is to be marked by the addition to the Men's Division of an expert in corrective work. Harlan G. Metcalf (Ph.D., Columbia) is added to the staff and will strengthen this phase of our work. He will also add much strength to the Professional Training Courses.

In 1920, a one-hour Hygiene course was established, carrying separate credit. It is felt that such a course is too limited — one hour for one quarter — to present adequately and effectively such subject matter as really ought to be taught our men and women. Health education is admitted to be of the greatest importance. It is our belief that this should become a three-hour, one-quarter course, required of all students.

Dr. John Herbert Nichols, who has had a long and most useful period of service with us as Director of the Men's Gymnasium and Medical Examiner, leaves us to return to his Alma Mater, Oberlin. We regret this loss of an outstanding man. In the Professional Training Course, as well as the required program, Dr. Nichols has been a source of great strength. We are fortunate in being able to place Dr. Frank R. Castleman in charge of the Required Activities program.

Our Professional (Teacher-Training) program is experiencing a healthy growth. There are now 104 women and 77 men majoring in this work. With little effort, these numbers could be doubled. The importance of this work makes it necessary to strengthen the teaching staff and, above all, to have the long-sought Physical Education Building for men. Until this is an accomplished fact, we must continue to mark time in many respects in this Physical Education program.

There is much demand for graduate work in Physical Education, and this University should meet such a demand at the earliest possible moment.

Our Intramural program must continue to suffer until such time as we can supply greatly needed facilities and secure field space in proximity to these facilities. Interest continues unabated in the program which is being well administered for both men and women. The Women's Field House is a fine asset, but is already recognized as being far too small.

Intercollegiate Athletics has experienced a successful year. Our football season was the most profitable one, financially, we have ever had. Other sports were less profitable than usual.

By action of the Athletic Board and approval of the President and Board of Trustees, the clearing of all athletic finances through the University Treasurer became an accomplished fact January 1, 1928. After six months of such operation, the report is highly satisfactory. This organization gives stability and security to the athletic administration and insures a careful handling of all finances.

The coming year may see the clearing of the Stadium indebtedness, though it should see the Athletic Board launch a building program of athletic facilities involving another million. A Natatorium and an Intramural Sports Building must be built, in addition to the new Physical Education Building for men. The Stadium must be inclosed or we must build a Field House. These are necessities if we are to keep pace in any degree with Michigan, Illinois, Wisconsin, Minnesota, and Iowa, our logical rivals and competitors in all fields education, as well as in sports. Let us repeat this statement for sake of clearness and emphasis:

The State of Ohio should give to this University a new Physical Education Building, for men, to replace the present Gymnasium, which has been absolutely inadequate for ten years. The Athletic Administration should build from athletic receipts a Natatorium, an Intramural Sports Building, place steel sash and glass in the Stadium arches, making the space underneath available for



use, and put the recreative fields around the Stadium in usable shape for our tremendously large student body.

## PHYSICAL EDUCATION

MEN'S DIVISION 1927-28

*Director, Dr. J. H. NICHOL*

This year concludes for me twelve years of service in Physical Educational at the Ohio State University. It is possibly worth while to review briefly the work of the past twelve years.

In 1916 the physical examinations were organized in such a way that all examinations were completed during the first week of the school year before any physical activity was undertaken. Previous to this time, the examinations of entering students had been spread out over the entire first year. At this time, we suggested the possibility of Freshman Week, in order to complete all examinations before the regular classwork began.

In the same year, physical ability tests were introduced for purposes of classifying students according to their ability, and to permit those who possessed a fair degree of motor coordination and were free from definite physical handicaps to elect their physical activity. A little later, the entire required program in Physical Education was put on an elective basis, with students permitted to select a different activity for each quarter, providing the student was physically sound. This arrangement, in a short time, entirely changed the attitude of the student body toward the required Physical Education, so that, instead of having from fifty to two hundred presenting requests to be excused for all sorts of reasons, we now have requests from a large number of upper classmen each quarter who wish to continue the courses without credit.

The type of program has necessitated a large number of sections at each hour of the day together with an increased staff. It has also made a heavy demand on the limited facilities that are now available. The new physical education plant will meet a long-felt need.

In 1919 Physical Education and Hygiene were placed on the same basis as all other courses in the University, granting positive credit instead of negative credit for courses in this department. This was a step of great educational importance to the department and has helped tremendously in creating a sound educational attitude on the part of the students and faculty as to the place of such a program in the University curriculum. At this time, the Hygiene course was made a distinct and separate course, carrying one hour credit.

During the period following the war, the increase in enrollment was so tremendous that our facilities and staff were unable to keep pace. The assistance of men in the department who were devoting their major time to intercollegiate athletics and the building of the Stadium helped to relieve the condition to some extent.

In 1917 a four-year curriculum for teacher training was submitted to the College of Education, but was not approved, partly due to lack of funds and also to the fact that the College of Education was undergoing a reorganization. As early as 1912-13, a minor in Physical Education had been set up, and courses were being given in the Summer Session for training teachers.

In 1923-24 a new curriculum was submitted to the University and approved and adopted by the College of Education. The first graduates received their degrees in 1926. The course is now well organized, and is increasing in strength and numbers just as fast as the present limited facilities will permit. The educational quality and soundness of the course has evoked favorable comment from many educators and universities.

During these years, there has been a steady growth of the intramural and recreational program of the University. There has, also, been an ever-increasing coordination and correlation between the programs of these two divisions of the department. At the present time, in the required Physical-Education program, instruction is given in eleven sport activities, which are later carried on in the intramural program. It is our aim in the freshman year to develop an interest and some skill in various types of sport activities which can later be enjoyed in the intramural program.

It has been a pleasure and a satisfaction to have a part in the onward march of this University and especially of this department. I wish to express my great appreciation of the support of the administration during these years. I wish also to acknowledge the splendid spirit of cooperation and helpfulness of the Physical Education staff, which has made possible all that we have been able to do.

\* \* \* \* \*

The Physical Education program for men naturally falls into the five main divisions:

1. Physical Examinations and Health Conferences
2. Hygiene instruction
3. Required Activity Courses
4. Professional Teacher-training Courses
5. Intramural and Voluntary Activities.

These various divisions of the work are under the supervision of different members of the department staff, and brief reports are submitted by the individuals directly responsible for the work. I will simply emphasize the needs of the various phases of the department's work and program as I see them.

#### PHYSICAL EXAMINATIONS AND HEALTH CONFERENCES

I believe that the effectiveness of the examinations could be considerably increased by a regular and careful follow-up examination each quarter of all the men who are found to have some physical disability at the time of their physical examination. The physical examination should be repeated at least once for all men in the University. If the physical examinations should be taken over by the Student Health Service, there should be a very close coordination between the Student Health Service and the Physical Education Department in connection with these examinations. The Physical Education Department should be supplied with a complete list of men who could be helped through corrective and remedial work, the postural part of the examination might well be carried on entirely by members of the Physical Education staff. It is probably impossible to make the physical examinations more complete without devoting considerable more time than is given in the present Freshman Week program. The examinations now are as thorough as any life-insurance examination.

#### HYGIENE

This year we undertook the experiment of dividing one section of Hygiene in the Winter Quarter into four sections of 30 each. It was the opinion of all the instructors who took part in this experiment that there were many educational advantages to be gained through the smaller sections. There was much more opportunity for discussion and conferences. The men all appeared to be much interested in the work and to put more into the work. The quiz averages were uniformly higher and the work in every way was more satisfactory to the instructor and student. In order to make such courses as Personal Hygiene effective, it is absolutely essential that opportunity be given for discussion and conferences, and I believe that the division of all groups to 30 or 40 will result in a distinct improvement of these courses.

#### REQUIRED ACTIVITY COURSES

The elective program of sport activities continues to meet with a very enthusiastic response from the students in the required Physical Education courses. The activities will be correlated with the activities in the Intramural program, so that more and more the required program is laying a foundation of interest and skill in the various types of sports that can be carried on, not only in the Intramural program, but also in after life. Each year we have a large number of upper classmen returning and enrolling in the various classes voluntarily and without credit. This seems to me to be the best criterion of the value of this type of program. The instruction in these courses has been exceedingly high grade.

Mr. Cobb instructed chiefly in tennis, cross country, hand ball and volley ball. Mr. Mooney handles boxing, wrestling and playground baseball. Mr. Staley handles wrestling, tumbling and gymnastics, athletic dancing, and soccer. Mr. Hindman, who is devoting about half of his time to the required work, is teaching tumbling and gymnastics, tennis, and handball. Mr. Wood, who is devoting half time to the department, has handled chiefly tennis and basketball. Mr. Snyder has handled practically all of the freshman elective sections in track. Mr. Oberlander has given most effective assistance during the Spring Quarter in wrestling and playground baseball.

In my opinion, the next step in connection with the required program is to add a sophomore year of required physical activities, this year to be devoted chiefly to Intramural activities, both of the competitive and non-competitive type, with a minimum of supervision and instruction. This will make it possible for students to carry on in their sophomore year the activities in which they have become interested during their freshman year. Such a program along the lines which I have in mind would not require much increase in instruction, but would require a considerable increase in facilities, especially indoor facilities. Of course, the outstanding need in connection with the required program continues to be a Physical Education Building.

#### PROFESSIONAL TEACHER-TRAINING COURSES

This course is continuing in its development and growth and is attracting a good class of students. During the past two years, the course has been greatly strengthened in many respects. The various courses are now well integrated. The teaching staff has been strengthened through



the addition of Mr. Hindman and Mr. Wood, and will be greatly strengthened through the addition of Mr. Harlan G. Metcalf, who is coming to us this year from New York University. Mr. Metcalf will take over the courses in kinesiology and in the corrective and remedial work. The realization on the part of the entire department that the success of this course depends on each and every individual's doing his part and meeting his personal responsibilities cannot be too strongly emphasized. The next steps in the development of this course would seem to me to be the following:

1. A very definite understanding on the part of the entire staff as to just what the objectives of such a course should be.
2. A careful going-over of all of the material covered in various courses, with the elimination of repetition and over-lapping as far as possible.
3. Realization by the members of the staff that it is much more important to turn out men of vision, and fine ideals and standards of the work than it is to turn out experts in some field of activity.
4. I believe the next educational advance should be made in the development of the graduate work and the placing of a strong man, trained along lines of research, who would be able to develop the graduate courses, giving courses in minor and major problems, devoting some time to the supervision of these and a considerable amount of time and thought to the development of some worth-while research in the field of Physical Education. The graduate work should include courses leading to an M.A. and Ph.D. Such a field would, undoubtedly, in a short time require at least two very high-grade men. The course will also need the addition of one well-trained man to take on the supervision of practice teaching and possibly some advisory work, in connection with the students entering the course.
5. In my opinion, in the Senior year there should be a little more opportunity given for majoring along certain lines and for doing original and advanced work in these fields through courses conducted largely by a conference method.
6. The professional-training courses, like all other phases of the department program, are unable to make much advancement until more adequate facilities are provided.

#### INTRAMURAL AND RECREATIONAL ACTIVITIES

The Intramural Division has continued to function smoothly and efficiently under the direction of Mr. Willaman and Mr. Wood, and there has been a fine working relationship with the entire program of Physical Education. The future development of this program, it seems to me, might well follow somewhat along the following lines:

1. The addition of a required year of participation in general sport activities in the sophomore year, conducted jointly by the Intramural and Physical Education Divisions.
2. An increase in the emphasis on recreational and voluntary activities, which can be carried on by two or more individuals. This would require an increase in both outdoor and indoor facilities. There is a great need for handball and squash courts. This is an ideal indoor game, which can be enjoyed at almost any season of the year by two or more individuals.
3. The development of a recreational program which will appeal to the instructional staff. This can undoubtedly be best secured through the provision of an adequate number of handball and squash courts, a natatorium, and golf courses. Provision should also be made for skating, boating, and canoeing.

#### CONDENSED STATEMENT OF DEPARTMENT NEEDS

Most of these needs have been presented so frequently that I am simply stating them without adding any supporting arguments:

1. Material. A new Physical Education Building, located near the University recreational field at the Stadium.
2. A Natatorium, connected with the new physical education plant and the new Field House.
3. The enclosing of the Stadium on the east side and the building of several batteries of handball and squash courts, with additional locker rooms.
4. The development of the fields south of the Stadium to King Avenue for Physical Education, Intramural, and general recreative activities for the entire student body.
5. The building of two 18-hole golf courses, sufficiently near to the University so that faculty and students can reach them in a reasonably short time. Golf is, without doubt, an ideal game for the average faculty man, and some knowledge and interest in golf should be given to every student before his graduation from the University.

6. The building of an artificial skating rink, which will provide skating throughout the winter months.
7. The building of a Field House to assist in meeting the needs of the intercollegiate and intramural program.
8. The widening of the Olentangy River for boating and canoeing.

## ADMINISTRATIVE NEEDS

1. The addition of one year to the required program in Physical Education.
2. The provision for graduate work in Physical Education.
3. The development of a recreational program for the instructional force.
4. The promotion of a recreational and health program for the instructional force.
5. The reorganization of the University health program.

## PERSONNEL NEEDS

1. The addition of two well-trained men, one of whom can handle the graduate work and the other take on some of the advanced teaching and administrative responsibilities in connection with the major course.

Men graduated during the academic year 1927-28 with the Physical Education Major will number six. These men, with the months of their graduation are:

PROFESSIONAL COURSES (TEACHER TRAINING)  
(DARWIN A. HINDMAN)

## GRADUATES

William J. Scheidt .....	August, 1927
Raymond W. Osborne .....	December, 1927
William T. Davies .....	June, 1928
Verne B. Hoffman .....	June, 1928
Merle A. Oliphant .....	June, 1928
L. Gordon Staley .....	June, 1928

Mr. R. W. Sharp expects to be graduated in August. The six men named above will make a total of eighteen men graduated with the Physical Education Major. For the twelve graduated before the present year, the following statement of occupation may be interesting:

One man is now a graduate student, but next year will be a university instructor in Physical Education.

Five are teachers of Physical Education in universities.

Three are teachers of Physical Education in high schools.

One is a public-school supervisor of Physical Education.

One is a director of Physical Education in a Young Men's Hebrew Association.

One is not in the Physical Education field.

## NUMBER OF STUDENTS

The present year is the fifth one since the establishment of the Physical Education Major. The number of students has increased steadily to reach a total of seventy-seven during the present year. At the beginning of the Fall Quarter, these men were classified as follows:

Seniors .....	7
Juniors .....	14
Sophomores .....	22
Freshmen .....	34
Total .....	77

The above numbers include only those men who are definitely students in the Physical Education Major or, more properly, the four-year curriculum in Physical Education. They do not include the considerable number who take the professional courses either as a minor or as an elective.

## PROFESSIONAL MEETINGS

Following plans made last year, a society was organized in the Fall for the purpose of holding meetings for professional discussion in Physical Education. Membership in the society has been open to professional students and active teachers. Two meetings were held in each quarter. The meetings were greatly enjoyed by the students and are believed to have been distinctly valuable. The attendance of the active teachers was excellent; that of the students was encouraging, but not so nearly perfect as is hoped for future meetings.

Sentiment among the students has continued active in favor of establishing some kind of a Physical Education fraternity or honor society. The establishment of such an organization has



been discouraged in the belief that there has not been sufficient agreement as to its proper nature, and also that the present number of students is too small to warrant an exclusive society. However, the sentiment will no doubt increase, and, as the numbers become larger, the society will probably be justified. It is hoped that members of the department will give such counsel as will lead to wise action in this matter.

#### PRACTICE TEACHING

In accordance with the requirements of the State Department of Education, the practice teaching regulations have been changed so that all of this work is now done in the public schools of Columbus, and none of it at the University. It is not believed that this change is all for the better, and it is hoped that the matter may soon be adjusted, so that part of the practice teaching in Physical Education may again be done at the University.

#### REMARKS

The curriculum has shown pleasing growth in numbers and also in professional consciousness on the part of students. Growth of the latter kind would be helped and the curriculum otherwise improved, if the freshmen could be brought into closer touch with the faculty and with each other. An attempt made last year to have special sections in Physical Education 401-402-403 for these men was not successful, owing largely to lack of space. It is hoped that the attempt may be repeated with more success.

Advanced classes with laboratory work are similarly handicapped by lack of room and the lack of privacy. Probably nothing can be done to improve this situation until a new building is provided.

#### PHYSICAL EDUCATION

##### WOMEN'S DIVISION 1927-28

*Director, LYDIA CLARK BENEDICT*

#### HEALTH WORK

The health education has been carried on this year under the direction of Dr. Shirley Armstrong. During the winter and spring quarters she has been assisted by Dr. Robertson. It has been a distinct advantage to the department to secure another well-trained Medical Adviser. This addition to the staff has enabled us to reach a larger number of students who are sadly in need of health advice. The value of the physical examinations has been enhanced, because it has been possible to schedule more conferences and more adequately conduct the follow-up work. The corrective work has also benefited by the addition to the medical staff. Miss Gilman, who is in charge of the corrective division, has welcomed the opportunity which enables her to call on the doctors for advice regarding students needing more individual attention.

During the Spring Quarter it has been possible to improve the hygiene teaching through the reduction of the size of all of the sections. Next year it is hoped that it may still be possible to keep the sections small enough to permit discussions and questions. Hygiene deals with intimate and personal problems which can be taken care of in a more sympathetic fashion in small classes in which there is opportunity for the instructor to know each student in her class. While a reduction in the size of the sections has improved the teaching in this phase of health education, the value of the work will be limited until the time allotment can be increased. At the present time the course is given one hour a week for one quarter. Such a meager time allotment hampers the quality of the work, making it exceedingly superficial and hardly of University caliber. The physical education staff feels that in order to make the course of vital interest to the students the credit hours should be increased to three and the class should meet at least three times a week for one quarter.

The physical education department is making every endeavor to improve the health education, but feels that the work will unfortunately be limited until an efficient health service is established. We are much encouraged by the movement which is now on foot to bring about such a department.

#### PROFESSIONAL COURSE

##### *Enrollment*

Freshmen .....	30
Sophomores .....	27
Juniors .....	29
Seniors .....	18

The professional course has developed rapidly, not only in enrollment, but also in the quality of the work given. A serious attempt is being made to keep the standards high and to

discourage students who lack the refinement and the ethical sense necessary for leadership of children and young women.

Teachers of physical education come in very close contact with the students whom they are teaching. Therefore, it is imperative that we encourage the student of high mental and spiritual caliber and discourage students who appear to lack the qualities necessary for intelligent leadership. This necessitates the retention of a strong physical education staff, composed of women of excellent training and high ideals, who have an understanding of educational ideals, and who are capable of guiding young students.

The practice teaching has been under the supervision of Miss Hersey. She has organized the work most efficiently. The administrators and teachers of the Columbus school systems have received the work in a most cooperative spirit.

This year the students have done practice teaching in the following schools:

#### Fall Quarter:

Mound Junior High  
Crestview Junior High  
Barrett Junior High  
Everett Junior High  
North High  
Roosevelt Junior High  
Pilgrim Junior High  
Champion Junior High  
East High  
West High  
Franklin Junior High  
South High  
Indianola  
Central High  
South High

#### Spring Quarter:

Central High  
Columbus School for Girls  
Champion Junior High  
Clintonville Junior High  
Crestview Junior High  
Fairwood Elementary  
Olentangy Elementary  
South High  
East High  
Fifth Avenue Elementary.

During the Spring Miss Hersey was able to concentrate the work so that several practice teachers were placed in one school. This enabled her to supervise the work in each school more frequently and also to require more work in observation.

There was also opportunity to do practice teaching in a few of the elementary schools. We were fortunate in being able to place students in the Columbus School for Girls, as well as in the Clintonville and Olentangy Elementary Schools. Our students need more contact with young children. This year I believe that the work was very much improved by the changes which have been mentioned, but the fact that the students have to travel great distances to their classes is a serious disadvantage. While the teachers have been quite cooperative in their attitude toward the work, it is impossible to control the type of work which the students are required to teach. It is hoped that in the near future the University may be able to conduct a practice school. Such a plan would in a large measure insure great improvement in the practice teaching in all the departments requiring this type of work.

In order to offer the students opportunity for contact with children before taking up the practice teaching in the public schools, children's classes in swimming, rhythms, folk dancing, and self-testing activities were given every Saturday morning during the Spring Quarter in connection with Physical Education 543, a sophomore course. The students voluntarily expressed their approval of the innovation and felt that they had gained valuable experience from the contact. The classes were under the supervision of Miss Hersey, who assigned student teachers for the work.



*Enrollment*

Swimming .....	80
Rhythms .....	40
Folk Dancing .....	35
Stunts .....	36
Games .....	48

We have graduated two classes from the professional course. They are teaching in the following institutions:

Celina High School, Celina, Ohio.  
 Cuyahoga Falls High School, Cuyahoga Falls, Ohio.  
 Elementary Schools, Shaker Heights, Ohio.  
 Beckley High School, Beckley, W. Va.  
 Cleveland Elementary School, Cleveland, Ohio.  
 Orton School for Girls, Pasadena, California.  
 Ohio State University, Department of Physical Education.  
 University of Colorado, Boulder, Colorado.  
 Oak Ridge School, Royal Oak, Michigan.  
 Mississippi State College for Women.  
 Ursuline High School, Youngstown, Ohio.  
 Hollins College, Hollins, Va.  
 Collinwood High School, Cleveland, Ohio.  
 Wooster College, Wooster, Ohio.  
 Toledo College, Toledo, Ohio.  
 Kansas State Agricultural College, Manhattan, Kansas.  
 Hermon Beardsley Butler House, Chicago, Ill.  
 East High School, Youngstown, Ohio.  
 Recreation Department, Columbus, Ohio.  
 Cleveland High School, Cleveland, Ohio.  
 Mayfield Heights School, Mayfield Heights, Ohio.  
 Junior High School, Dayton, Ohio.

## INTRAMURAL ATHLETICS

*Director, S. S. WILLAMAN*

*Assistant Director, H. S. WOOD*

The most important developments in Intramural Athletics in the past few years have been the stabilization of the sports programs, the recognition of the true values of intramural competition and the consequent cessation of ballyhoo promotion and exaggerated publicity, the standardization of administration, and the increasing of facilities for the carrying on of worthwhile activities.

The Ohio State University has done much to stabilize its intramural program by eliminating many activities which were beneficial only from the standpoint of promotional publicity and were of doubtful value to the participants. In their stead have been substituted sport activities which contribute to the physical and social well-being of the students participating.

The "huge participation" rivalry which existed between Intramural Departments at many universities, has given way to a more sincere interest in what is good for the individuals in one's own school, and the students have been quick to recognize the betterment.

A more diversified sports program has been offered at the Ohio State University, enabling students of varying interests to find some outlet in wholesome physical recreation. In the year just past, approximately 5,000 different students and over a hundred faculty members participated in one or more sports. Incomplete records seemed to indicate that each student participates in an average of three different sports per year. The sports offered this past year are as follows: Speedball, Cross Country, Indoor Baseball, Outdoor Golf, Basketball, Foul Shooting, Bowling, Boxing, Wrestling, Fencing, Baseball, Playground Ball, Horseshoes, Swimming, Tennis, Golf, Rifle Shooting, and Pistol Shooting.

A most important change in administration has been effected through the addition of a full-time Intramural Secretary, Mrs. A. C. Hunter, who has assumed full responsibility for records, notification of re-scheduled games, receipt of fees, etc. This addition to the staff has brought about the following betterments:

1. The Intramural Office is now open from 9:00 A.M. until after the last scheduled game of the day, rather than from 4:00 P. M. on, as was the case previously.
2. The information given out from the department regarding games to be played, postponements, etc. is absolutely reliable, whereas this was not the case when some 15 or 20 managers supplied this information.

3. The managers, being relieved of time-consuming details, have been able to give more thought and attention to the actual sport activities and better field supervision has resulted.

4. The managers, being relieved of much detail, are now obliged to spend only one afternoon and one evening each week in the department office, whereas, in years past, they were required to spend every afternoon and several nights per week in detail work. This puts the intramural managership on a better basis from the standpoint of their interest in intramural work and in their studies.

5. The centralization of responsibility in a salaried secretary has brought about innumerable benefits, and the presence of the secretary adds much to the stabilization of the department over a period of years. The department could better weather a change, in administration now than ever before.

Other important changes have been made in filing, keeping records, handling financial transactions, etc., which have brought about marked improvements in intramural management.

The addition of an equipment room, with locked compartments, for out-of-season equipment has resulted in the saving of such money inasmuch as sports equipment not actually in use may not be taken as has formerly been done.

It is the feeling of the Intramural Department that the percentage of fraternity competition is about as high as may be attained on a voluntary basis, but that more independents (unaffiliated with any campus organization or fraternity) should be encouraged to take part. An interesting experiment carried on in this work during the Fall quarter of the past year met with nominal success, but was encouraging enough to stimulate the making of extensive plans along this line for next year.

There is an urgent need for more play fields, tennis courts, indoor gymnasium space, handball and squash courts, a golf links and a natatorium, in order that the Intramural Department can best serve the wholesome recreative interests of the students.

The unorganized recreational phase of Intramural athletics at the Ohio State University is almost non-existent, due to the lack of these facilities, and activities such as handball, squash, tennis, golf, etc., which have the greatest carry-over value in post-college days, receive little or no encouragement. Until facilities are furnished, this extremely important part of the Physical Education and Intramural work must of necessity be overlooked.

This past year the Intramural Department has been making a survey of athletic participation at the Ohio State University, including varsity, reserves, freshman squad competition, and physical education required sports, as well as intramural. The results of this survey will not be available until next Fall, but we will then, for the first time, be able to know definitely the percentage of intramural competition, the percentage of all athletic participation, the percentage of participation in intramurals by college classes, the average number of sport activities participated in by each individual, etc. Many interesting correlations may be made from this record. The survey will be continued through the next school year.

#### ATHLETIC PUBLICITY

*Director, W. D. GRIFFITH*

The past year marked the establishment of a distinct bureau for the dissemination of athletic publicity. Heretofore, athletic news and general University news were handled through the same office and under the same direction. During the past year, however, while all material cleared through the News Bureau proper, a separate office for the preparation of athletic news was maintained.

As in the past, it has been the policy of the Division of Athletic Publicity to act as the clearing house of all athletic information and to fill all reasonable requests for special items from the papers of this and other states, and press associations.

Complete data on team members, the coaching staff and squads as a whole, advance information on at-home and out-of-town contests, and other matters of pertinent interest to readers of sport news comprised the output of this Division.

It was also the aim of this Division to work with staff writers interested in athletic news at the Ohio State University and to facilitate the preparation of any article or picture layouts that they might have in view.

As a means of expanding the service of this Division, particular attention was paid the preparation of art, both special and routine. In this connection, many photographs were taken at the requests of daily papers and press associations, in addition to the regular individual and squad pictures that comprise a part of the duties of the Division. Along this same line, matrices were prepared of different sport layouts and these were distributed to a select list of newspapers. Two of these were on the subject of football, one on basketball, two on the Ohio Relays and one on the Olympic candidates that the University possessed. These were gratefully accepted and used to such an extent that their employment will be expanded in the future.



## ANNUAL REPORT

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The following table illustrates the number and character of the "stories" issued under the head of "athletic news" during the year 1927-28. Under the item of "track," the freshman track team and the State Interscholastic Meet are included. "Wrestling," also, covers the Olympic District Tryouts that were held at the Ohio State Gymnasium. The title "Miscellaneous" is used to apply to general stories covering more than one sport or covering some particular phase of athletics that could not be placed under a definite head. The table follows:

Special Princeton Game Stories.....	20
Football .....	54
Soccer .....	3
Cross Country .....	3
Basketball .....	21
Track .....	35
Ohio Relays .....	22
Baseball .....	14
Fencing .....	7
Wrestling .....	11
Golf .....	5
Gymnastics .....	3
Tennis .....	7
Coaching Courses .....	8
Miscellaneous .....	62
<b>Total .....</b>	<b>275</b>

## THE ANNUAL REPORT OF THE DEAN OF WOMEN

Dean, ESTHER ALLEN GAW

### THE ATTITUDE OF THE OFFICE OF THE DEAN

If I wished to indicate in two words the attitude of the office of the Dean of Women, I think I should use the words "research" and "coordination." By "research" I mean the use of the experimental method, including constant checking and evaluation of what is actually happening. We are trying to find out exactly the adjustments which are taking place in the lives of the women in the University. This includes academic adjustments and social adjustments. We are also trying, so far as is in our power, to make these adjustments more effective for the individuals and for the groups. Above all, we are trying to avoid the complacent feeling that we have necessarily accomplished anything just because we have been busy all of the long days in the university year. Therefore, we are constantly trying to check ourselves by setting goals and then seeing how far we progress toward these goals.

We are also trying to get the students to adopt this same attitude. We hope to get them to view their own actions objectively and judicially. This is where the second word, "coordination," may describe the attitude of our office. If we are effective as coordinators, we shall enable the students to look at their own actions and evaluate them. We do not wish to live their lives, but rather we hope to help them assume the responsibility for pleasant, temperate, and effective lives. I really think that, almost without exception, all University undergraduates could be thus adjusted. This is our ideal.

### THINGS ACCOMPLISHED DURING THE YEAR 1927-1928

I have the feeling that for the year my assistants and I have no particularly obvious accomplishments to record. The activities I shall mention have been in the nature of holding our own rather than of progress. I have served on various faculty committees; namely, the Executive Committee of the College of Liberal Arts, several sections of the Freshman Week Committee, the University Scholarship Committee, and the Council on Student Affairs. All of us have made reports or talks to organizations and clubs in Columbus and over the State. Miss Carter and I both attended the Boston meeting of the National Association of Deans of Women in February. Miss Carter was sent as the representative of the Women's Panhellenic Association. I made a report to the University Section of the Deans on the tentative results of the Personality Traits Check List which had been filled out by all freshmen in the first quarter. The Ohio Association of Deans of Women met in Pomerene Hall on April 14, 1928. At that time I reported on the Survey of Scholarship Loans, to which I refer later among bulletins. During the summer quarter, I am initiating a course for advisers of women and girls called "The Psychological Problems of the Dean of Women."

A second activity of the office has been that of writing and issuing bulletins. The housing bulletin is a matter of course each year. It has been modified somewhat this year and is, we believe, better organized. A bulletin for women undergraduates who work for their room and board or who do other kinds of part-time work to help put themselves through college was issued in



January. Both of these were printed by the University Press. We made a detailed study of scholarships and loans for the Scholarship Committee which was mimeographed for Bulletin No. 40 of the Ohio College Association, April, 1928. In this study we found that up to that time loans of \$50 to \$150 for the year had been made to forty-eight undergraduate women. A copy of this report was mailed to each member of the Board of Trustees. Miss Clousing and I wrote up the tentative results of the Personality Traits Check List for the *Eleusis* of Chi Omega, where it was published in May of this year.

In addition to these rather lengthy bulletins, we have sent out many bulletins of one of two pages each, embodying suggestions to the Head Residents or to student groups. Often there was required a return report from the Head Resident or the group. We have also kept a daily bulletin of information in the *Lantern*. Thus we have kept the students, the housing units, and the campus community generally informed of many matters.

The third duty which has devolved upon the members of the staff has been that of individual consultations with the students. We have made a division of the questions that arise in these consultations. Of course there is much overlapping; but, as a usual thing, Miss Rosemond has seen students who had questions about rooms and who wished to work for room and board. She has also kept under constant inspection the approved houses and has visited every house in which any girl lives by special permission. Mrs. Barker and later Mrs. Sturgeon have made arrangements with students and others about the use of Pomerene Hall and have acted as the hostesses for all social events there. Miss Carter has borne the brunt of the interviews with sorority officers and chaperons. My own special kind of interview has been with students who have had difficulties with their studies, in their personal problems, or with financial matters, as well as with those seeking vocational advice. I have also had many interviews with representatives of the student organizations and have been a frequent attendant of the meetings of the Women's Self Government Association and of the meetings of other student organizations. We have had innumerable joint consultations about difficult situations.

Perhaps the most definite accomplishment of this year is the starting of a file in which is recorded information about the students. We have a record for every freshman entrant of this past year. In the individual folder is found information about her environment before she came to college, the results of objective tests given here, her academic grades, many blanks which she has filled giving her attitudes and interests. The research member of the staff, Miss Josephine Clousing, has as her particular task the evaluation of this material. We hope to follow this class through the four years and develop a technique of records that will enable us really to know every one of the twenty-eight hundred undergraduate women on the campus. Among the things on which we already have data and which we hope to evaluate are:

Objective measurements

Entrance Examination

Scholarship Record by point-hour ratio

Personality Traits Check List

Other information some of it standardized by norms

Father's occupation

Father's education

Mother's education

Number of brothers and sisters

Number of relatives who have attended the Ohio State University

Number of relatives who have graduated from the Ohio State University.

Number of hours of part-time work per quarter  
 Amount of money borrowed  
 Amount of insurance  
 Location of home in town, city, or country  
 Present residence and roommate  
 Organizations to which each belongs  
 Amount of outside reading done per quarter  
 Amount of recreation of various kinds  
 Number of times each has consulted a doctor or has been sick  
 Hours of sleep

We have had a general meeting with the Head Residents of the dormitories, approved houses, and sorority houses at least once a quarter. These meetings have afforded us opportunity to make mutual explanations and suggestions. We feel that we have developed a spirit of understanding with these women. As the representatives of the University, their influence is a very important one on the campus. It is, therefore, essential that there be complete understanding between them and the staff of the Dean of Women.

The final point about the things accomplished this year is that of the management of Pomerene Hall. The new north wing brought additional space, which, in turn, brought added duties to the Social Assistant to the Dean. Mrs. Barker was developing the social use of the building in a very fine way at the time of her sudden death in January. We felt that this was a great personal loss and a blow to the growth of the use of Pomerene Hall. We were fortunate, however, in having Mrs. Anne Young Sturgeon, an alumnae of fine training, come in at once to fill the breach. We have weathered the storm and have made Pomerene Hall available for many social events as well as for the student committees and routine meetings.

In this connection, I wish to explain the scale of prices for the use of the building. The one-dollar union fee, which every woman student pays each quarter, amounts to an income of something between \$8500 and \$9000 a year. It costs at least \$13,000 to maintain the building. The University funds pay the difference. Since this is true, although the building is offered free for meetings of any undergraduate organizations and at a small nominal fee for dances, this privilege cannot be extended to other organizations. Even if the Union fee were large enough to pay all the expenses of running the building, the building should be at the service of the undergraduate students rather than others. If the undergraduates were using Pomerene Hall as much as we should like, we could not accept any other organizations at any price. This will probably become an actual fact in the near future.

#### THINGS ACCOMPLISHED WITH THE COOPERATION OF STUDENTS, 1927-1928

So much for the specific activities of the staff, which seem to fill our days very completely. I wish to speak also of some things which have been accomplished by the student organizations and which are of concern to us. Two organizations have been initiated this year in which we have had no part but in which we are much interested. The first is the establishment of an executive committee made up of members of men from the Student Senate and women from the Women's Self Government Association. This is a super-committee to which problems connected with both men and women can be referred. The second is the establishment of a colored panhellenic association in which are included the three fraternities and two sororities. Such an organization should be of aid to the colored students and to the campus.



The Women's Self Government Association has revised the point system so that no one woman can take many offices in various organizations at one time. They have also rewritten the rules so that they are in much better shape and have established a judiciary committee which is to act on the violation of these rules.

The Women's Panhellenic Association has made a cooperative report on the expenses of belonging to a sorority. The very making of the report had educational value for the student themselves, and the figures are significant for us.

One of the important student committees with which I have worked this year is a volunteer committee called the Vocational Committee. This Committee was called together in October in response to the expression of a desire on the part of the students to receive adequate vocational information and advice. After some preliminary discussion, it was decided to make a survey of vocational information available at the University and in Columbus and to make it from the undergraduate point of view. With this in mind the Committee made the following six reports during the year:

1. Vocational choices of freshman women.

2. Vocational information available in courses at the Ohio State University. Written reports about colleges of Liberal Arts, Education, and Commerce and Administration.

3. Vocational meetings.

4. Individual appointments for freshmen with the Dean of Women.

5. Women's Ohio outline of vocational information.

Affiliation with Business and Professional Women's Clubs.

1. All freshman women were asked to indicate their choice of occupations by naming two in which they might like to be trained. The choices of three hundred and thirty-nine students, two for each individual, fell into the following ranks

	Number Choices	Per cent Choices
(1) Teaching .....	210	31
(2) Business .....	96	14
(3) Art .....	66	9.8
(4) Home Economics other than Teaching .....	61	9
(5) Social Work .....	38	5.6
(6) Journalism .....	37	5.5
(7) Dramatic Art .....	29	4.3
(8) Music .....	26	3.8
(9) Writing .....	19	2.8
Sum Total of 9 professions .....	586	86.1
(10) In 29 other professions .....	92	13.9
Grand Total .....	678	100

Miss Elizabeth Hiatt, who did the tabulation of this report, also made some very interesting graphs showing the number of subdivisions in the first nine main groups. I used these graphs several times when telling about the University in communities in Ohio and always found a very eager interest in them. The Freshman-Week Committee also used them to clarify their ideas

about the giving of the vocational information during the Freshman-Week period.

2. The student committee undertook the task of writing up information about preparation for specific occupations in the colleges. There are written reports from Miss Blanche Montgomery on Preparation for Teaching, from Miss Regina Young on the College of Engineering, and from Miss Elizabeth Rowland on Vocational Information and Courses Offered in the College of Liberal Arts. Each one of these is of unusual interest since it is written from the point of view of the student. Material was gathered concerning several other colleges but did not become crystallized into written form.

3. The Women's Self Government Association, the Young Women's Christian Association, the Pan-professional Council, and Theta Sigma Phi, women's honorary journalism society, cooperated in a series of vocational meetings where older women spoke of general opportunities or specific professions. The topics were as follows:

- a. Occupational Interests—Esther Allen Gaw, The Ohio State University. Report on Freshmen Interests—Elizabeth Hiett, Senior.
- b. Journalism as a Vocation for Women—Jean James, Columbus Dispatch. Report on returns from questionnaire to alumnae of Theta Sigma Phi, Frances Jones, Graduate.
- c. Bookselling as a Vocation for Women—L. F. Teeter, Lazarus Book Store.
- d. Medical Social Service as a Vocation for Women—Constance Webb, Lakeside Hospital, Cleveland.
- e. Finding a Job—Florence S. Robnett, Collegiate Bureau of Occupations, Chicago.

Mrs. Robnett also had individual consultations with seniors and graduates during the day of her stay. She was able to tell those who saw her how to go about finding places for themselves in occupations other than teaching.

- f. Training for Store Service—Lucinda Wyman Prince, Boston.

4. During the week of April 2, my own time was entirely given to consultation with freshman women. The announcement of the plan in February was as follows:

"Freshman women who have not been able to make a definite decision for occupations or vocations may consult with the Dean of Women and her committee. Schedules for fifteen-minute appointments may be found in the office of the Dean and definite times signed for. Those who wish this advice are urged to make appointments early to suit their own university schedules. When the appointment for an interview is made, two blanks will be given to the student which she should fill out and bring back to the interview. These are from the Harvard University Bureau of Vocational Education and are called (a) Self-Measuring Scale for Achievement in Experience in Work and Education, and (b) Self-Measuring Scale for Information, Education, and Vocations. They are designed to give the students a starting point for discussion during the interview.

"At the time of making the appointment the student may also designate whether she wishes to have a blank, which she has already filled out and which is at present on file with the Dean of Women, scored for one of the six occupations: teacher, stenographer, housewife, business woman, saleswoman, author. These will be scored by the student committee now working on a report on vocational information at the University. Other blanks filled dur-



ing the year by the freshmen and on file in the office will also be considered in the consultation.

"The points taken up in the interviews will vary with the student concerned. For many students they will probably cover some or all of these points:

Present educational background

Present attitude and interests

Present success in college

Possibilities of educational equipment in the field chosen at the Ohio State University

Reference to authorities on the campus for further information

Reference to bibliographies and libraries for information to be gotten by reading."

This plan was fully carried out. Eighty freshmen and three sophomores signed up for conferences; fifty-three actually came.

The outstanding thing to be noticed about these vocational information conferences was that two-fifths of the students wished information about teaching. This was in spite of the fact that the periods had been announced as being for the giving of information about occupations other than teaching. So far as I can gather, the feeling that the student needs more information than she has arises usually from one of two causes. One cause seems to be that, although the student has previously thought that she would prefer to teach a given subject, she has now become doubtful that this is her principal interest. The other cause seems to be that she wishes help because she has not been able to master the intricacies of the catalogue. Three-fifths of the students wished information about business occupations, journalism, writing, and other openings. After the conference many of them were sent to other members of the faculty. They were sometimes even put into touch with people off the campus for consultation, and they were referred to books which contained specific and up-to-date information.

5. The Women's Ohio is an organization of undergraduate women whose main purpose is to go out to the high schools of the State during the spring quarter and tell the girls there about the University. They wished to announce to the high-school girls the fact that vocational information and advice is given here. We prepared an outline for these speakers which appealed so much to the Freshman-Week Sub-Committee on Vocational Information for the Manual that it is to be included in the 1928 book. I shall, therefore, not present it here.

6. Finally, the Committee worked on the problem of making contacts between the college students who are seeking information and the women who are at work in the many kinds of business and professions. Miss Mary Bright made some visits to business women in the city. Meanwhile, I was telling about the interest of these undergraduate students whenever I met with a business or professional group. Finally, the chairman of the Educational Committee of the Business and Professional Women's Clubs said that the making of contacts with the undergraduates was exactly their interest. There were several meetings of the students, representatives of the Club, and finally one with Miss Josephine Simrall, Dean of Women at the University of Cincinnati. The following plan of cooperation was agreed upon:

"It was decided to experiment with this work in the three large cities of Ohio—Cleveland, Cincinnati, and Columbus—and later on, when the details of

the plan had been worked out, to extend it to all the clubs throughout the State that are located in cities with co-educational or women's colleges.

"The primary idea of this plan of cooperation is to have in the hands of the Dean of Women a list of prominent business and professional women to whom she may send her women students for advice. The women on this list should be carefully selected, as to personality and as to business and professional standing, and should include any women who are willing to cooperate even if they are not members of the Business and Professional Women's Club.

"It should be the duty of the Educational Committee of the Business and Professional Women's Club to prepare this list, obtaining the consent of the women whom they wish to enlist. The list would then be given to the Dean of Women, but the Educational Committee would be responsible for keeping the Dean informed of any changes in the list.

"The women who are cooperating in the project will be given a list of the best books and pamphlets on women in business and professions and will be asked to become well informed upon the subject in general as well as upon the possibilities for younger women in their own special field of work. It will be the part of the deans of women to keep the bibliography up-to-date."

Meanwhile, a faculty committee had been discussing the matter of vocational information and advice. In view of the fact that the recommendations of this committee included the use of some of the material of the students in the Freshman Manual and the initiation of a vocational course next year, it seemed best for the students not to print their report as originally planned. For this reason, I have placed it more fully before you here than I should otherwise have done.

#### PLANS FOR 1928-1929

So much for the things in which we seem to have made some appreciable progress in the past year. I want to include also in this report the projects for next year.

In order to reach the undergraduate women at the time when they most need help, I wish very much to have all those who do not live at home placed in dormitories under the direct supervision of the University. Below is a table in which is shown approximately the number of freshman women in residence at the Ohio State University during the fall quarter of 1927 and the winter quarter of 1928. The first and third columns of this table give the total numbers of women according to their housing conditions. The second and fourth columns give the estimated number of freshman women who would have been required to live in freshman dormitories.

	Fall 1927	Available for freshman dormitories	Winter 1928	Available for freshman dormitories
Home .....	335		314	
Special Permission .....	103	103	94	94
Self-help .....	38		39	
Approved houses .....	81	81	74	74
Dormitories .....	149	149	125	125
Sorority houses .....	7	7	19	19
Unknown .....	1	1		
Totals .....	734	341	665	312
		185		185
		156		127



There seems to be, then, approximately three hundred and fifty freshman women away from home. The present accommodations in Oxley and Mack halls, I understand, are for about one hundred and eighty-five students. If Neil Hall were under the jurisdiction of the University, we could house not only the other approximate one hundred and sixty-five of the total, but would also have room for one hundred and thirty-five students other than freshmen in the three buildings. This excess room gives me my second suggestion. It would be possible to invite thirty-five picked seniors and graduate students to live in the halls and be student assistants in the governing of the halls. These seniors might even be given academic credit for a seminar with me. They could work out certain social and educational problems with these much younger students which would be of great value to them. The whole dormitory would, therefore, become a laboratory for the study of social and educational problems for both the older and the younger students. My problem of getting information and advice to the freshmen would also be solved with these assistants. If such a plan could be adopted, these seniors and graduate students should come to the dormitories at my invitation and should be students interested in psychological, sociological, and health problems. I am sure I could find them through the various departments of the University.

If the University could control Neil Hall and if Neil Hall could be maintained at approximately the same price as Oxley Hall and Mack Hall, it would not be unreasonable for the University to ask all freshman women, not at home, to live in those three halls. At the present time, for several reasons, the University cannot assume the management of Neil Hall. But the management has changed and is most eager to cooperate with the University. I am, therefore, asking freshmen to go into Oxley and Mack and Neil halls if possible. The older students who have been in University dormitories are not being turned out, but no new applicants other than freshmen are being accepted. The freshmen also understand that they are to stay but one year. In two years, therefore, these halls will house freshmen only.

We hope that the freshman grouping will result in more happy placement of the sophomores. They will find friends during the freshman year and can plan to live with them in some of the small approved houses. We hope that it will also be of help to the whole plan of meeting freshman needs. There are some students who must work for their room and board. We shall have to grant this.

Many of the blanks used by this office will be filled through the meetings with the freshmen in their groups. But, in addition, three of the colleges which have a large enrollment of women have signified their willingness to have me meet the freshman women at a period where they are gathered for orientation or survey courses. The College of Commerce and Administration, which does not have such a course, will call all its freshman women together for me twice in the fall quarter. I can, therefore, give up the lectures of the Dean of Women, in which I did not accomplish anything worth while, except the filling out of blanks.

My plan is to reach all of the students, as well as the freshmen, in their houses. I have planned that each house shall have at least one representative who comes to a discussion group with me often, perhaps once a week. Here I shall show the older students how they can help the younger ones most efficiently and also how to solve their own problems. In addition, we hope to get the faculty women of the University Club, who have signified



their interest, to become advisers for the groups in the approved houses. The sorority houses have such advisers from among their own alumnae. The smaller groups need such mature advice just as much. The houses will feel, then, that they are a definite part of the University program; not that they are somehow on the edge, shifting as best they may. The visit of the alumnae to all approved houses, a project of the Alumnae Council which was initiated this spring, will also help develop this feeling of being a recognized part of the University.

I have not mentioned the students who live at home. We must think of them because they so often show acute social maladjustment. Such students are just as much in need of help and advice about methods of study, budgeting of time, and wise emotional attitudes as those who are away from home. We are feeling our way toward more thorough understanding with the parents of these students—about one-third of all of the women students—but have not yet formulated any definite method of procedure.

I hope that Pomerene Hall will be a better center of pleasant social life next year. We have found out what we can and cannot do there. We have finally decided to give over one of the lounges to dancing, since that is a pleasant and popular kind of recreation which is not possible in the building unless one room is arranged for it. I believe that, through the two new Social Assistants to the Dean, we shall be able to advise the young students about temperate and desirable, as well as aesthetic amusements. Since the Pomerene Board of Control has been dissolved, I have asked it to continue as an Advisory Board. The same faculty and alumnae membership will be continued. The student representation will be slightly changed. A statement, which is included in "Rules for the Use of Pomerene Hall," follows regarding this Board: "The Pomerene Advisory Board, which consults with the Dean of Women about the management of Pomerene Hall, consists of two women members of the faculty, a representative of the alumnae, the women members of the Board of Trustees, and six undergraduate women students. One of these students is a representative of the Women's Self-Government Association. The other five students are appointed, when a vacancy occurs, by the students, in consultation with the Dean of Women."

I wish to speak of the services of my staff. Although of the rank of Assistants to the Dean, their service is the intelligent and efficient kind that could be no better given by a corps of deans of women. For this reason I am glad that one of them, at least, has been promoted to the position of Associate Dean with the rank of Instructor.

In conclusion, I wish to note the things which seem to me most seriously needed on this campus. The first is a student health clinic that functions adequately. I hope that this problem will be soon solved by the Trustees. The second, which goes hand in hand with the first, is the matter of really proper housing. The mushroom growth of the University has involved us in allowing the students, even under the best of circumstances, to live crowded into houses originally built for relatively small family groups. Often they have incomplete and unattractive furnishings. There is absolutely no provision for normal social intercourse.

Miss Carter has made a provisional survey of ten houses this year, giving a specific description of the houses from the public-health point of view. All of us, with the help of the students, expect to make a much more complete report of the actual conditions in all houses next year. Houses are advertised



by real-estate agents in the papers as being "suitable for a sorority or fraternity house" without any consultation with the University authorities as to whether they are really "suitable." We hope to be able to say to any householder, or to any group, that the house must conform to certain minimum specifications.

The housing of the colored women who live away from home has never been solved. We tried to help a little this year, but have not accomplished anything definite as yet. We hope to do more next year.

The housing of women will never be what it should be until that of the men is also more nearly adequate. We are, therefore, anxious for the support of the University in the supervision of the housing of the men. Housing, I have said, is the important thing from our point of view. This is because we know that academic success, which is our ultimate ideal, is dependent upon physiological and social adjustment; and this is, in turn, if not wholly at least partially, dependent upon the kind of place in which the student sleeps, eats, studies, and has social contacts.

Finally, my assistants and I have set up as the ideal of action for ourselves that of solving the psychological problems which confront us because we must be interpreters, teachers, and coordinators with and between several kinds of individuals and groups. We must be interpreters of all the objective evidence we can find about individual students, groups of students, parents, head residents, other members of the community, and even faculty members. We must teach any of these individuals or groups many things including health, budgeting of time and money, study habits, and social habits of many kinds, as the occasion arises. We must also help not only students and groups of students but, in a surprising number of cases, we must help the so-called adults who deal with them to make a better solution of behavior problems, race or caste prejudice, and overbearing conduct; and we must help the same people to develop the constructive social attitudes shown in self-control and cooperation. In fact, we see as our work any and all problems of social adjustment which come into our offices.

## THE YOUNG WOMEN'S CHRISTIAN ASSOCIATION

ELIZABETH RICHARDS, *Secretary*

The past year has been an unusually successful one in many respects. In this report particular notice will be paid to several branches where it is felt that distinct progress has been made.

### SUMMER OF 1927

Miss Frances Gillingham, Summer Secretary, in charge

At Geneva summer conference, held at Lake Geneva, Wisconsin, for all college Y. W. C. A.'s of the Middle West, there was an attendance of 33 from the Ohio State University — which was almost double the usual quota set.

Other summer efforts consisted mostly of employment work, the interviewing and placement for summer school students, and extension work preparatory to fall quarter. Also, the Association sponsored, in conjunction with the Y. M. C. A., a social educational program for summer students — vesper services, conducted tours of state institutions, musical programs, and parties.

The year was started with a membership of 1408.

### EMPLOYMENT

This service was continued throughout the year with increasing success, under the direction of Miss Ruth Lloyd. The system under which the bureau was operated was almost entirely revised. In addition, inquiries were sent to all of the larger schools of the country about the systems which they were using, in order to secure a more adequate idea of the best methods to incorporate in our own. Many valuable suggestions were gleaned for the improvement of the methods in use here.

#### Statistics of employment:

		No. of positions
* Summer Quarter.....	\$ 150.00	13
Fall Quarter.....	4,056.96	170
Winter Quarter.....	3,971.90	106
Spring Quarter.....	2,397.90	90
Two full-time placements.....	2,400.00	2

\* These numbers and amounts do not include the indirect positions of which there are a large number, i.e., places to which we referred girls where they might possibly secure a position for the asking. Neither do the statistics include the numbers of students who have carried over positions secured in this office in a former year or years.

### FRESHMAN WORK

This has been increasingly expanded during the past two years. Our freshman membership of between 350 and 400 girls was divided into small cabinet groups forming friendship cabinets or units, each of which was conducted as a miniature association in itself. There has been an increasing development of leadership and initiative that has been very gratifying to those working in this branch.

### COMMUNITY SERVICE AND SETTLEMENTS COMMITTEES

Approximately one hundred girls weekly gave their services toward aiding the charitable and social service institutions of the city, giving service wherever their volunteer efforts could be of most value.



## STUDENT INDUSTRIAL COMMITTEE

Notable success was attained under the leadership of Miss Elsie Heipp, the Columbus Y. W. C. A. Industrial Secretary. The group met for study of civic and industrial problems relating to working women, and to hear addresses by authorities in various fields—the head of the Columbus Labor Movement, the state chairmen of the Ohio Industrial Department, etc. Each girl in the group had one constructive piece of work assigned to her to complete during the year, such as legal research, economic tutoring, or a canvass of a particular industry. The group made real progress in understanding and interest, which culminated in their sending two student representatives to the Chicago Industrial Experiment, sponsored by the National Y. W. C. A. This was the first time that Ohio State had been represented.

## MEETINGS

The Association was so fortunate as to have among its leaders of this year Dr. Harry Crane of Maulden, Mass., Mrs. Frances Williams MacLemore of New York, Judge Florence Allen, and a series of such vocational speakers as Mrs. Gaw, Dean of Women, Mrs. Webb of Cleveland, and Mrs. Robnette of the Chicago Collegiate Bureau of Occupations. Credit for this latter must be shared with the Women's Student Government Association and the Pan-professional Council.

## FIRESIDE SESSIONS

There were discussion groups, chiefly under professorial guidance held during the winter quarter. The interest aroused is shown by the fact that twenty groups signified their desire of having them. There was a nucleus group which carried through a series the entire year.

## SOCIAL

This department was unusually successful in reaching those students whose social contacts are otherwise limited. The "Mixer" and the "Warmer" were large campus-wide parties, and the Campus Fellowship Committee sponsored similar parties to smaller groups.

## INTER-RACIAL WORK

Under the impetus of a visit from Mrs. MacLemore, a colored National Y. W. C. A. Secretary, plans were gotten under way for execution next year of a new project in understanding. There is to be only a small nucleus and individual work available in other groups.

## WORLD FELLOWSHIP

Numbered in this group are all of the foreign-born girls on the campus, as well as the American students who are interested. Part of their work was the friendly contact with one another, but they also assisted very materially with the Foreign student banquet sponsored by the Association of University Churches. They laid a background preparatory for adopting a sister scholarship in some foreign college.

Other committees—Posters, Finance, Publicity, Dramatics, Membership,

etc. are all a part of the technical machinery for any organization and speak for themselves.

In the above, which is a mere skeleton or framework, no idea is given of the leadership, the fine thinking, and the student initiative developed with the undertaking of all these responsibilities, although it is these which make the work a continual pleasure.

For next year two additional cabinet members are added — Bible Study and Church Relations. Other appointments are for conference, twenty-six delegates to represent The Ohio State University, for the summer secretary, Miss Frances Gillingham; for general secretary for year 1928-1929, Miss Mary Florence Lichliter.



UNIVERSITY Y. M. C. A.

*Secretary*, GLEN D. DALTON

The Secretary wishes that every member of the Advisory Board might have been present at the Annual Setting-Up Conference of the Y. M. C. A. Cabinet in Urbana last month, and that this conference might have sufficed as an indication of the significance of the Y. M. C. A. on our campus. One could not have sat with this group of students without realizing that here was an organization imbued with the ideals of service and devotion, of loyalty and sincerity, that here was a group of fellows, college men, deriving their reward from the service they rendered. And what better test can be applied to the value of any organization or institution than that—that from the purpose it serves and the adequacy of that service comes its value, its significance, its reward? And what better criterion of the attractiveness and importance of what the Y. M. C. A. is trying to do can be assayed than the kind of lives that have been invested in its service? To me this is tremendously important. So one wishes that he might make a report upon the spirit of the Y. M. C. A. rather than upon its achievements. For, as achievements do not necessarily indicate the worth of a man, neither do they necessarily indicate the worth of an organization. It is the spirit in which a man achieves that makes him of worth, not merely the achieving itself. As one looks back over the year that is past in an effort to make a survey of what has been done he sees always a group of loyal cabinet men who have been and always will be the life of the Y. M. C. A. They reflect its spirit.

Before we see how they have reflected it, it will be well for us to recall the situation in which the Association found itself last fall. The Board will remember that in August of last year Mr. Park presented his resignation as Secretary of the Y. M. C. A. to accept the position of Student Counselor of the University, a new office created by the Board of Trustees. Reluctant to release Mr. Park, and not positive that he would be entirely satisfied in his new position, the Board granted him a year's leave of absence and made the present Secretary, Acting Secretary. In January, at Mr. Park's request, his resignation was accepted. Mr. Thomas, who was our Student President in 1925-26, and who was at this particular time associated with the Central Building of the Y. M. C. A., was loaned to the Student Branch to take the position vacated by Mr. Dalton. This was done with the understanding that if he were needed down town he would be returned. Miss Smith, who had been with the Campus Y for a number of years, desired to spend full time in the University in order that she might graduate at the end of the winter quarter, and resigned her position as office secretary to make this possible. Hence, with the exception of Mr. Montgomery, each position in the Y. M. C. A. Office was new to the person who occupied it. This meant a completely new realignment as far as duties and responsibilities were concerned; it was not without concern that the task ahead was approached. That the year has been as successful as it has been is due entirely to the unstinted loyalty of the Cabinet, of the Councils, of the Board, and of the Associate Secretaries. No one in the position of that

occupied by the Acting Secretary could have wished for a finer spirit than that constantly shown by those with whom he was associated.

Under the very able leadership of Mr. Milligan the Association has enjoyed the most successful year since the present Secretary's coming to the campus in 1924. His earnestness of spirit and his sincerity of purpose were a constant inspiration to the Cabinet and to the secretaries to do their best. Tactful, but positive, he made a good president.

In most departments our committee work has been unusually effective.

The Social Service Committee's chief function in recent years has been that of promoting boys' clubs in some of the churches of the city, in community houses, and in the Central Y. M. C. A. During the present year, however, the work developed in other fields. Seven active boys' clubs were conducted under the direction of this committee. The meetings of the club totaled over seventy, and the average attendance of each was eleven. The influence and value of this work cannot be overestimated.

In cooperation with the Y. W. C. A., this committee invited the fraternities and sororities of the campus to join in the effort to bring happiness to the needy families of the city at Christmas time. Fifteen groups responded to the invitation, and quite a large number of baskets of food, candy, and toys were distributed. Christmas was made more real for many children whose only conception of this day is that of toys and candy and new clothes. Seven other fraternities gave dinners at their houses for more than a hundred different little waifs, and then made them all happier by giving each of them a useful present, such as a sweater or cap. Needless to say the men enjoyed these events as much as the children. It was a beautiful demonstration of the Christmas spirit.

Next year we hope to combine this part of our program with our Christmas Sing under the big cedar tree in the oval, and to make of it a White Christmas in which the entire student body will participate, groups bringing their baskets—all sharing in the joys of giving.

In the winter quarter, on four successive Sundays, the Social Service Committee, with the fine cooperation of the Men's Glee Club, brightened the lives of many by singing to the patients and inmates of three hospitals and the penitentiary. The Committee hopes that next year the Girls' Glee Club may be enlisted in this work, and that numerous other institutions may be visited.

The last major endeavor of this committee was the sending on Easter Sunday of three hundred bouquets of flowers to the charity patients in the Columbus hospitals. This was made possible by a special price from one of the florists of the city, and by the financial aid of some individuals and organizations, of which the Sophomore Y. M. C. A. Council was one.

The program of the Finance Committee has been an ambitious one. The goal of the Student Finance Drive was set at \$2500.00, and this amount was oversubscribed. There is always a shrinkage to be expected in the collection of the pledges; but the amount uncollected is unusually small, due entirely to the perseverance and effectiveness of this Committee, whose chairman was John Dunlap. Two hundred men served with him.

Under the leadership of George Marshall, the Social Committee had a very successful year. The program was auspiciously inaugurated with the Mixer for the freshmen during Freshman Week. Fifteen hundred freshman men and women gathered in Pomerene Hall for this event. In all, twenty-four, parties were promoted through the social committees of the Y. M. C. A. More



than four thousand students were thus enabled to enjoy social privileges that are altogether too few on our campus. There is need for increased facilities in this field. A new Union would be a step in the right direction.

The Friendly Relations Committee, under the leadership of Melvin Barclay, has done a remarkable piece of work. The Chairman has shown a genuine interest in these students from other lands, an interest that has won for him, for the Y. M. C. A. and for the University a feeling of gratitude that is very much worth cultivating. All of these foreign students are potential missionaries, more strategic by far than any missionary of our own that we might send to their lands. Working with them in their International Club, which was organized through the efforts of the Y. M. C. A., through the Inter-racial Council, through their respective nationality groupings, and with them as individuals, securing invitations for fifteen of them to Christmas dinners in homes of the city, the Friendly Relations Committee has done much to make friends of these strangers to our shores.

Our Visitation Committee and our Freshman Advisers' Committee have been combined in the Freshman Committee. The work of the Visitation Chairman has been to call upon those students who were ill, and those who were either homesick or were having difficulty of some kind. The work of the freshman Advisers has been to procure as many upper classmen as possible to serve as "big brothers" for twice their number of freshmen. Due to a number of situations, fraternity rushing, uncertainty as to the time of arrival of the freshmen, difficulty in locating the individual once he had arrived, the effectiveness of the work of this committee has always been difficult to gauge. Since the programs of these two committees so nearly parallel each other they were combined into the Freshman Committee. This work will now be under the direct supervision of the new Freshman Secretary; the chairman will be his student assistant.

The Extension Committee is a new name for what was formerly the Gospel Team and later the Community Service Team. This change was made at the suggestion of the present chairman, Ferdinand Stone, who served in the same capacity last year. The idea of the committee now is to extend or to carry the ideals of the University and the Y. M. C. A. into the various communities where the committee is invited by the churches and other organizations that they may use them. Their work last year was for the most part concerned with organizing themselves and in surveying the field where they may go. While a great deal was not actually done, the possibilities for the next year are very promising.

Ward Ewalt has done a praiseworthy work as Chairman of the Churches and Conference Committee. During the year four "Come to Church" Sundays were observed. The results thus obtained have been very encouraging, some pastors reporting their attendance doubled and trebled on those occasions. Plans for next year call for an increasing emphasis upon church attendance by the students and student interest by the churches. The Secretary feels that the church is missing one of its biggest opportunities in not giving adequate attention to the students of today. As much as we should like to believe that the church is reaching the majority of the students, such is not the case. Commanding personalities in the pulpits seem to be one solution of the problem. Bringing to the campus once a month an outstanding religious leader of the country is another. The Y. M. C. A. is a member of the University Churches Association and yesterday submitted a number of recommendations to the



churches with the hope that the adoption of some of them at least will make for an increased interest of the students in the church.

Our annual Special Meetings were under the leadership of Henry Crane. Without a doubt he has created a keener desire to live the Master Life than any man who has visited our campus in recent years. He is an ideal preacher for students.

Through Mr. Ewalt's committee the largest delegation in the history of the Association attended Lake Geneva last June. Twenty-nine men, some of them from the churches, comprised the second largest group in the Conference; and most of them have been, as a result of their attendance at Geneva, better workers in our program. The Y. M. C. A. cooperated with the churches in promoting the quadrennial Student Volunteer Convention at Detroit during the holidays. Fifty-four students from our University attended.

The Publicity Committee, now called the Committee on Public Information, has been quite effective throughout the year. Stories in the *Lantern* and in the city papers have been many. With the knowledge that the education of the public to what the Campus Y. M. C. A. is doing is the only certain means of enlisting their interest and their support, this committee is making plans for an even greater campaign for disseminating news concerning the work of the "Y."

Though employment in Columbus this year has been a real problem, Mr. Thomas and Brooks MacCracken, who is Chairman of the Employment Committee, have furnished more work for students than was furnished last year. This has been due to the procuring of new fields for student help. In all 1,325 jobs have been furnished; their money value is \$57,500.00. The secretaries of the Y. M. C. A. have sat with the Faculty Committee on employment during the year. The recommendations of this committee are now ready for the Board of Trustees.

Under the direction of Mr. Thomas and under the chairmanship of Merlin Dubois the Fireside Sessions Committee enjoyed another successful year. Twenty-six organizations participated in this phase of our program, as did fifty-eight leaders, most of them members of the faculty. One hundred and seventy-five meetings were held; the average attendance was eighteen.

Next year this committee hopes to interest the faculty in holding noon-day meetings in the Faculty Club over a period similar to that during which the Fireside Sessions are conducted.

Our Freshman Handbook, the third volume of the present edition, is becoming increasingly finer. Three thousand of them were given out to freshman men during the year, fifteen hundred of them being sent to the students before they left home for college. It has become a recognized University publication and is now governed by a Board similar to that of other publication boards on the campus. This part of the Y's program incurs an expenditure of nearly \$900.00, most of which is taken care of by advertising. The cost this year will be somewhat reduced, due to the effectiveness of its business manager, Russell McNeil, and to the able supervision of Mr. Thomas.

Our Cabinet next year will have a new position in it, that of Campus Fellowship. There are two distinct phases of social endeavor in our work, and the establishment of this committee will fill one of them that has not had the attention it deserved. The Y. W. C. A. has long had such a committee, and we shall cooperate with them in most of this committee's work. Until now the Sophomore Council has been trying to meet this need of the campus.



The Sophomore Council, with the counsel of Mr. Thomas, has been making progress in many ways. From it have come most of our new Cabinet members for next year. From it came most of the committee members. It has constantly been a source of supply for ideas, men, and finance in our program.

The Freshman Council under the direction of Mr. Montgomery has had a very successful year. The fact that so many of the leaders of the Freshman Class are interested in the work of the Y. M. C. A. is an indication of its value, and our bringing Mr. Montgomery on as full-time Secretary will enable us to capitalize even more upon our opportunities among these freshman students. Meeting every Wednesday night, discussing student and social problems, planning their program, learning to know each other better, they have become a potential source of material for our work. Four social events, the visiting of four hundred freshmen, establishment of the Freshman Honorary Society, Phi Eta Sigma, and their assistance generally in the program of the association on the campus describes all too briefly their efforts for the year.

The Board will recall that in December it voted to expand our budget to the extent of employing a full-time Freshman Secretary. Later in the year Mr. Montgomery was invited by the Board to fill this position, and he accepted. He will begin his duties July 15. It is estimated that \$3000.00 will be required to carry on this work the first year. This spring the Secretary has been spending considerable time visiting alumni in an effort to raise this money. The fact that he has been successful in doing it indicates the interest our alumni have in the University. For the splendid cooperation of the University Administration and the Alumni Office in particular, for the help given by members of the faculty and other friends of the Association in this phase of our program, and for the fine financial response of our Alumni, the Y. M. C. A. is sincerely grateful. We must not stop at \$3000.00, nor twice this amount. The time has come when our Association, if it is to keep pace with the needs of the campus and with what is being done on other campuses of the country, must address itself to the task of creating an endowment commensurate with the opportunities for service. To really meet the situation on our campus we need an annual budget of \$20,000.00. The present is not too soon to begin in a very definite way to make plans for the consummation of this ideal.

Through the year many new plans have occurred to us, plans by which we think our work can be bettered. One of these is a departmental month-by-month budget. With its installation we shall be able to carry on our work in a much abler fashion, as it depends upon finances to do so.

Another has been the conception of a larger Board, new members of which we shall vote upon today. We feel that these new contacts and this enlarged interest will be very beneficial to our program.

As the summer approaches we are planning our program for this period. One of the most important phases of our work has been done during the past four summers, that of inspecting rooms for the men students. Last year 815 homes were inspected by the Y. M. C. A. This work will be repeated this summer. Next year the University will undoubtedly assume this responsibility.

So we might continue to speak of the work that is to us such a pleasure. One could not work with a group of students such as those with whom we have worked these past four years, and especially those who have been so close to

us as the Cabinet just retiring, without feeling the bracing effects of their genuine devotion. There is something infinitely beyond the ordinary about this movement of ours, something supremely magnetic about it. And the reason is quickly found—it emulates a Master Personality whose great driving power for strong living came from his constant companionship with his God.



## UNIVERSITY NEWS BUREAU

*Director, JAMES E. POLLARD*

In some ways the year just ended was the most notable in the history of the University News Bureau. The major developments of the year were the taking over in its entirety of the Bureau by the University, the expansion of the news service to include all of the weekly newspapers in Ohio, and the setting up of the University Publicity Council.

The significance of the first step is at once apparent when it is remembered that as recently as eight years ago the University had no news service as such, and there was some doubt as to the wisdom of setting up such an agency on anything like a permanent basis. The importance of the University's public relations is now self-evident.

Until this year the pressure of other demands on the Bureau largely limited its activities to the daily press and to the press associations. When the University took over the Bureau in its entirety and the director was relieved of duties incident to athletics, it became possible to expand the news service to include the weekly newspapers of Ohio. University news releases have been sent regularly each week to some four hundred weekly, semi-weekly, and tri-weekly newspapers in Ohio with gratifying results. This is a step long advocated by Mr. C. E. Steeb, secretary of the Board of Trustees.

The setting up of a University Publicity Council was important in two respects: It gave the director of the news service an official group to which he could turn for advice and which could help shape the policies of the Bureau, and it also provided official channels through which additional news could flow. Through circumstances largely beyond control, the Council held but one meeting, from which, however, there were definitely productive results.

The appended table gives an idea of the increasing productivity of the Bureau and of the increasing proportion of general university news cleared through the office:

As the year closes, there is every indication that the newspapers of Ohio hold the kindest feeling toward the University and are glad to cooperate with it in keeping the state at large informed of the services the University is rendering the state, as well as of the activities of its students, faculty, and administrative personnel.

The director is again grateful for the sympathetic cooperation of the University administration, for the helpfulness of the secretary of the Board of Trustees, the registrar, the alumni secretary, and of many others without whose interest and continued cooperation the work would suffer greatly.

## DISTRIBUTION OF NEWS STORIES ON BASIS OF CONTENT

	1927-1928		1926-1927
Agriculture .....	28		11
Alumni .....	55		24
Business Research .....	104		33
Commerce .....	7		14
Convocations .....	507		386
Debating .....	16		*
Education .....	61		61
Engineering .....	27		19
Enrollment .....	1114		529
Faculty .....	30		23
Freshman Week .....	14		*
Graduate School .....	14		13
Military .....	21		*
Organizations (Student) .....	74		217
Radio .....	54		2
Scholarships and Honors .....	114		77
Veterinary .....	6		6
Miscellaneous .....	120		67
Total .....		2336	1482
		2336	1482
Athletics:			
Baseball .....	5		17
Basketball .....	14		60
Fencing .....	2		2
Football .....	68		136
Soccer .....	2		0
Tennis .....	3		0
Track .....	31		30
Wrestling .....	5		2
Miscellaneous .....	61		67
Total .....		191	314
		2557	1796

\* Not given previously.



## ANNUAL REPORT OF THE STUDENT COUNSELOR

J. A. PARK

The present Student Counselor began his work less than ten months ago—September 15, 1927, to be exact. His instructions were: "To take over the duties of the present Council on Student Affairs and such other duties as may from time to time seem desirable."

The wisdom of such flexibility has already been apparent. The present incumbent has been able to select almost entirely the field in which he feels he can best function. There is a temptation in any newly created position to gather to oneself a multitude of duties and responsibilities which may in themselves be a justification for the establishment of the office. I have tried to avoid this central idea, that tendency with the thought that anything not pertinent to the central idea of this office should not be handled here, as at present thought of, is to act as a sincere and friendly guide and counselor to men students in their contacts with the faculty, the administration, with each other, and with the public.

Obviously in a group of seven thousand men personal contacts, much as they are to be desired and as many of them as we enjoy, should constitute only one method of approach to the situation. With this in mind we have maintained contact with as many organizations as possible. A highly desirable concentration of student government has been effected through the Student Senate which is closing a very satisfactory first year. The Senate enjoys the high regard of students, and its subsidiary organization, the Student Court, has functioned well in disposing of cases submitted to it by the President and others. It is our hope that increasing responsibilities maybe accepted by these two groups as they become more firmly established.

As might be expected, a number of routine duties have been directed to this office. Among them are the excuse of students from class attendance, the removal of penalties for late registration and late payment of diploma fees, and the deferring of Incidental Fees payment. Most of this is routine, yet there are many cases which are involved to such an extent that a careful consideration is due the student. Arbitration of disputes between students and rooming-house proprietors, as well as those between debtors and creditors are a source of little satisfaction, but very necessary. I shall have more to say about the rooming situation.

The Student Counselor has served on the Student Loan Committee, the Committee on Social Conditions affecting Students, the Vocational Guidance Committee, and the Scholarship Day Committee. It has also been his privilege to serve on a number of undergraduate committees in an advisory way. The Council on Student Affairs in its new advisory relation has been of great assistance in determining matters of general policy on several occasions, particularly with reference to fraternities and sororities. I have continued to serve as a member of the Advisory Board of the University Y. M. C. A., together with other members of the faculty. So much for what might be called formal relationships.

Approximately 1,500 letters have gone out to parents from this office. A letter sent to the parents of out-of-town freshman shortly after they began

their university career accounts for the bulk of this number. This letter expressed the personal interest of the University personnel in the achievement of each student placed under our instruction. Other letters going out from time to time were in recognition of scholastic or other achievement. Judging by the number of replies from appreciative parents this was a most satisfactory policy.

The writer is called upon every day to counsel with students on educational, vocational, and personal problems. Such contacts are welcomed, and we have tried to give each person presenting such a problem unhurried interviews. One cannot but be impressed with the gallant fight for education made by some of our students against almost impossible odds. Securing far more attention are those few who are making no fight at all, with everything in their favor. In many cases reference has been made to other persons better qualified to discuss the point at issue. This is a phase of our work that will grow with the establishment of student knowledge of and confidence in what the office has to offer. Twice weekly through the school year we have called upon students ill in the University Hospital.

At a number of student affairs the Student Counselor has represented the University Administration. On a number of non-student occasions he has been called upon to interpret the new emphasis on personality placed by the University in its student-faculty-administration relationships. He has done some writing for campus publications on related topics. At the National Conference of Deans and Advisers of Men he had an opportunity to exchange experiences with men in similar work. At the University of Chicago Institute for Administrative Officers to be held in July where he has been asked to lead two groups on "Personnel Problems" he hopes to add to his fund of information.

The placing of the Auditor of Student Organizations in this office has worked out very satisfactorily. Registration and supervision of all University social events are carried on through her office. The auditing services are supplemented by a considerable amount of much-appreciated advice as to financial policies. Since most organizations close their books with the spring quarter, the Auditor's report must of necessity be made at a later date and hence will be made separately.

No important change of policy will be made for the coming year, though it is hoped to keep abreast of changing conditions as they develop. With the coming of the new Junior Deans it is expected that a very profitable cooperation can be effected. We look forward to this with anticipation. It is hoped that a Housing Bureau for men as recommended by the University Faculty may be set up by the summer of 1929, since this is a field which needs much more attention than it now receives. I believe that the Student Senate's usefulness will be greatly increased if the Board of Trustees can discover a method of helping them in carrying a modest budget.

The Student Counselor has had splendid cooperation from all with whom he has had to do. The whole attitude toward his work has been all that could be desired. The emphasis for future policy will be to increase our informal student contacts, for in them lie our greatest possibilities of usefulness.



## THE UNIVERSITY PRESS BOOKSTORE

*Director, G. H. SIEBERT*

I am enclosing information concerning the Bookstore, as you request, and am giving below a detailed report of the past activities and hopes for the future.

### STATISTICS

You will note from the table of Sales and Purchases by Departments that our purchases and sales for the first two years of our existence are very much the same, which would seem to indicate that we have been gradually stocking up the store to carry a supply of the materials it should have on hand. In but two cases are the inventory figures more than should be carried, namely, books and athletic clothing. You are aware, I believe, of the extremely sharp competition we have had in the past year in regard to prices. This has resulted in these two departments (the two most vulnerable for an attack of this kind) being overstocked at the present time. In our last inventory we took a markdown on all of these materials, which it appeared likely we would not be able to sell, and have disposed of them at the best price offered. The balance left can be sold during the coming school year.

The rest of the data is, I believe, self-explanatory. I might say that the figures in the distribution of Sales and Purchases are gross, while those listed below are net. By gross I mean that there were some returns made for credit in the case of purchases, while we, in turn, accepted returns on some sales. I have filed with Mr. Eckelberry a monthly statement, showing our financial condition for each month, cumulative in regard to the year. I am not enclosing a copy, as I believe the facts you desire are shown better on the inclosed:

### POLICIES

The following subjects will show our policies in each case:

#### SELLING PRICES

Books are sold at 10 per cent less than list price in cases where the list price is one dollar or over. If less than one dollar list, they are sold at list. The only exception is in the case of Medical or Law books. The discount is approximately 10 per cent on Law books making a selling price of list necessary. In the case of Medical books, our policy in the past has been to sell at list at the insistence of the publishers, but to allow the student 10 per cent credit on the purchase price of a book, to be applied on the purchase price of instruments. We shall be compelled next year to discontinue this practice, as the publishers have objected to any plan resembling a discount. Their recourse would be to reduce our discount, which they are at perfect liberty to do. Our plan for next year is, therefore, to sell books at list, and supplies or instruments at practically cost, in the Medical Branch.

In the matter of supplies our prices have been established without regard to any list price or any price at which the same articles have been sold elsewhere. They will average about 25 per cent lower than the same supplies were sold previous to our being established, and are set as reasonably as possible at present.

## SELLING TO UNIVERSITY FACULTY MEMBERS AND EMPLOYEES

We have always sold to the members of this group at cost price. It is my understanding that the Bookstore is intended to handle any small purchases for Faculty members such as were previously handled through Mr. Royer's office.

## COMPETITION

No attention has been paid to the practices of competitors in any regard. We have been and at present are being undersold, but have not reduced our prices to offset this practice. Our doing so would simply excite the present situation, which seems to be settling down, and will, I hope, die out altogether.

## ADVERTISING

Under our present organization, advertising would simply be another expense. Since we are here to save the student as much as possible in money and to see that supplies are of the grade desired, it is not necessary to advertise the fact other than in the college bulletins. A short description of the location and purpose is carried in the Freshman Week Manual, Y. M. C. A. Handbook, and General Catalog. I believe it would be beneficial to carry it in all of the College catalogs.

## METHODS OF SECURING INFORMATION FROM THE FACULTY

About sixty days before the start of any quarter, departmental report cards are sent to each department of instruction on the campus. Return within ten days is requested and the result is about 40 per cent. A follow-up of the individual instructors follows. From experience I would say that a combination of these two forms is necessary with as much personal solicitation as possible. The only form of personal solicitation I have been able to find time for, up to the present, is through my connection in the Faculty Club. There are certain departments on the campus which seem to be highly organized, such as Geology, Engineering Drawing, Electrical Engineering, and many others (especially the smaller departments). Information is easily secured from these as to texts or other materials needed. The larger departments, such as English, Business Organization, or Economics, have too many instructors for the quarterly-report-card system and should be handled through personal letters or personal solicitation, preferably the latter. I have hopes that in the not too far distant future, we may be able to secure another person, one who is well acquainted with the book business, so that I may be more or less free to visit around among the various departments and bring the Bookstore closer to the Faculty. This is, of course, some time away yet, but will be necessary if the plans for the future develop as they should. Up to the present I have been rather closely tied to my desk, handling the details and data which it is necessary for the Bookstore to have. However, these become easier to take care of, as, in the course of time, they become matters of routine.

## THE FUTURE

Before going into how the Bookstore should develop, I believe a few words as to the general policy which should be followed would be very appropriate. I do not believe that the Bookstore is as yet financially able to take the place it should in the University. Neither do I believe it would be good policy to expand our activities until our opposition has died down to a minimum. I believe that the latter is rapidly approaching. Financially, the Bookstore should



make great strides this next year. We are now quite a bit in debt, due to price-cutting activities against us. However, our stock has been built up so that it is no longer a matter of stocking up for the coming year so much as it is of maintaining our stock during the year. In making up our orders for Fall, I find that, exclusive of books, we are ordering much less than for previous peak periods. With four peak periods during the school year, it is necessary to maintain good average stock. With the last two years' experience, we can tell approximately what we can sell each month. As to future plans, I have talked this point over very extensively with Mr. W. E. Pearce, Director of the Press, who is one of the best-informed men in the country, and who has written several articles on this subject. He realizes fully the condition here, but is anxious to see the Bookstore become a significant part of the educational program of the University.

There are three points to consider at this time which will, I believe, cover the next few years of expansion, which the Bookstore should undertake. In the order in which they should be taken up, they are as follows:

1. Rental of books
2. Buying for the Library
3. The Bookstore as part of the University, particularly in reference to the following three points:
  - a. Important part in Educational program.
  - b. Service.
  - c. Prices as reasonable as possible.

I am giving a short discussion below on each of these points.

#### RENTAL OF TEXTBOOKS

This topic was taken up last spring at the request of Professor Hendrix, in reference to using several Spanish books in one of the advanced courses in Spanish. The use of the rental plan is supplementary to the library and should be resorted to only in such cases as the Library is unable to handle. It involves courses in which the professor desires to use several texts, which the Library does not desire to place on its shelves and where the price is prohibitive to the student. The same books are used over and over. The charges are based on approximately three years' use, so that the student has the use of five or six books at the cost of one. The plan is used extensively at several institutions, among them the University of Chicago.

#### BUYING FOR THE LIBRARY

Libraries are allowed 10 per cent discount by publishers. Consequently, most libraries place their orders through some other buying agent in order to secure a lower cost. There is no reason why we cannot serve the library here in this manner, supplying to them at a small percentage above cost.

#### BOOKSTORE AS PART OF THE UNIVERSITY

a. *Important Part in Educational Program.* I have in mind a sort of browsing room, or section where students and Faculty members may look over the latest books on the subjects in which they might be interested and where they may even sit down and read, if they desire. Publishers would, I am sure, be glad to send examination copies to us for use in this section with the understanding, of course, that we should pay for any sold. It will not prove to be a source of revenue at all, but will be a distinct service of the Bookstore to the University. Keeping the store open until 9 P. M. in the evening should be a

practice in connection with this plan. Its source is probably found in the English Universities where it is used extensively and makes the Bookstore next in line to the Library as the Educational center of the University. It is used in this country quite extensively, the University of North Carolina having recently turned over space in connection with one of the professor's offices, for this purpose. This reading room is to be under the direction of one of the faculty members.

In this connection, a committee of Faculty members might even be appointed to work with us in this way, keeping, of course, within the limitations of the books the Bookstore should handle.

b. *Service.* This topic needs no discussion, as it will follow naturally as the Bookstore grows. We cannot, of course, give the best of service until financially able.

c. *Prices.* We are bound by the very fact that we are a part of the University to set the best price possible in every case. Our prices are very reasonable and a saving to the students at the present level. The fact that we are being undersold does not mean that our prices are high, but simply that the Bookstore has enabled the students to buy cheaper. I believe this is generally understood. Undoubtedly, in the future we shall be enabled to sell lower, as we are buying at lower prices every year.

I believe I have covered the points in which you are interested, but will be pleased to give you any further information you may desire. In regard to a report from the University Press, I am afraid there are not as yet enough figures available, as there were no records kept at all until February, 1928. At that time an attempt was made to set up complete records, but no progress was made beyond a list of cash receipts and expenditures. The Press is doing considerably more work than in previous years. The only way in which this can be determined is through the record of monies deposited in Mr. Steeb's office.



# SUMMARY OF THE FINANCIAL STATEMENT

FOR THE YEAR ENDING JUNE 30, 1928

(A complete detailed Financial Report for the year ending June 30, 1928, is printed in separate form and may be had upon application.)

Columbus, Ohio, July 18, 1928.

HON. JULIUS F. STONE,  
Chairman of Board of Trustees,  
The Ohio State University.

DEAR SIR:

The financial statement presented herein is that part of the Annual Report of the Board of Trustees to the Governor of Ohio, which shows the financial condition of The Ohio State University for the fiscal year ended June 30, 1928.

CARL E. STEEB,  
Secretary.

## CONSOLIDATED STATEMENT

### INCOME AND EXPENDITURES

Cash Balance July 1, 1927 .....	\$ 360,523.86
Total Income for year, <i>Schedule B</i> .....	\$ 6,804,063.41
Less funds paid to State Treasurer and not available for the University .....	6,520.30
Total Available Income, <i>Schedule B</i> .....	6,797,543.11
Total Expenditures for year, <i>Schedule C</i> .....	6,556,662.94
Balance for the year .....	240,880.17
Cash Balance June 30, 1928, <i>Schedule D</i> .....	\$ 601,404.03

### ASSETS AND LIABILITIES

Current Assets June 30, 1928, <i>Schedules D and F</i> .....	\$ 3,668,633.73
Investment Assets June 30, 1928, <i>Schedules D and F</i> .....	1,150,914.73
EDUCATIONAL PLANT:	
Value of Lands, Buildings, and Equipment, <i>Schedules D and F</i> ...	15,896,897.37
Contingent Liabilities June 30, 1928, <i>Schedule F</i> .....	2,834,975.12
Investment Liabilities June 30, 1928, <i>Schedule F</i> .....	1,150,914.73
Capital Account June 30, 1928, <i>Schedule F</i> .....	16,730,555.98
	\$20,716,445.83
	\$20,716,445.83

## INCOME

Description	Items	Total
INCOME FROM STUDENTS:		
Tuition and incidental fees, <i>Schedule B-1</i> .....	\$ 695,607.50	
Special fees, degrees, etc. ....	11,027.00	
Gymnasium locker rent .....	10,445.00	\$ 717,079.50
INCOME FROM ENDOWMENTS:		
For general purposes, <i>Schedule G</i> .....	13,045.88	
For designated purposes, <i>Schedule H</i> .....	7,899.54	20,945.42

## FEDERAL AID:

Land-grant Act of July 2, 1862, <i>Schedule G</i> .....	31,450.60	
Land Grant—Virginia Military Lands— <i>Schedule G</i> .....	13,571.80	
Additional Aid—Acts of August 30, 1890, and March 4, 1907....	50,000.00	
Agricultural Extension Work—Acts of May 8, 1914, and July 24, 1919 .....	228,775.06	323,797.46

## STATE AID:

Current Expenses, <i>Schedule I</i> .....	3,134,947.20	
Capital Improvements, <i>Schedule I</i> .....	737,070.86	
Agricultural Extension, <i>Schedule I</i> .....	298,472.54	4,170,490.60

## GIFTS FOR CURRENT EXPENSES:

For designated purposes, <i>Schedule B-2</i> .....	22,027.06	22,027.06
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## INCOME FROM OTHER SOURCES:

*Agricultural Extension*

Boys' and Girls' Club Work .....	5,619.55	
County Agents' Funds from Counties .....	209,062.88	
Farmers' Institute Funds from Counties .....	15,225.00	
Rotary .....	230.00	230,137.43

*Departmental Earnings*

Architecture-Photo .....	845.25	
Brace Shop .....	4,540.00	
Clinics .....	2,407.40	
Dental Clinic .....	21,133.62	
Dispensaries .....	1,159.30	
Engineering Experiment Station Sales .....	160.00	
Farm Rotary .....	96,705.78	
Lantern .....	17,868.18	
Laundry .....	1,634.63	
Ohio Biological Survey .....	224.50	
University Hospital .....	91,040.17	
Veterinary Clinic .....	5,159.39	242,878.22

*For Designated Purposes*

Class of 1923—Interest on Gift .....	247.26	
Class of 1925—Interest on Gift .....	171.05	
Class of 1926—Interest on Gift .....	132.91	
Class of 1927—Interest on Gift .....	181.73	
Commutation of Uniforms .....	25,110.87	
*Miscellaneous Sales .....	6,516.30	
State Board of Education (Smith-Hughes) .....	55,447.20	
*Virginia Military Lands .....	4.00	87,811.32

## DORMITORIES AND DINING HALLS:

Home Economics Cafeteria .....	16,840.74	
Pomerene Cafeteria .....	34,056.61	
Residence Halls for Women .....	75,750.41	126,647.76

## COMMERCIAL ACCOUNTS:

Telephone Account .....	20,663.29	
University Press—Bookstore .....	124,666.94	
University Press—Print Shop .....	109,030.33	
Warehouse .....	386,674.10	641,034.66

## ATHLETIC DEPARTMENT:

221,213.98 221,213.98

Total Income, <i>Schedule A</i> .....	6,804,063.41
Less funds (*) paid to State Treasurer and not available for the University, <i>Schedule A</i> .....	6,520.30
Total Available Income, <i>Schedule A</i> .....	6,797,543.11



## CLASSIFIED EXPENDITURES

	Items	Total
<b>EXPENSES:</b>		
Salaries .....	\$ 3,531,604.16	
Boys' and Girls' Club Work .....	5,371.31	
Coal and gas .....	104,962.58	
Employes and extra labor .....	190,321.25	
Feed for livestock .....	28,358.59	
Field work, Agricultural Extension .....	124,658.07	
Food supplies .....	44,952.24	
Freight and cartage .....	10,780.06	
Incidentals .....	54,001.08	
Laboratory and educational supplies .....	86,186.13	
Materials and general supplies .....	206,397.22	
Printing .....	87,851.10	
Refunds, Military Uniforms .....	21,076.23	
Repairs to equipment .....	28,420.80	
Scholarships and student aid .....	10,686.13	
State Teachers' Retirement System .....	32,877.22	
Stationery and office supplies .....	85,279.90	
Telephone and telegraph .....	19,987.79	
Travel .....	23,539.91	
Water .....	25,619.15	
Total Expenses, Schedules C-1 and C-2 .....		\$ 4,722,930.92
<b>EQUIPMENT:</b>		
Apparatus .....	29,663.82	
Books .....	49,177.01	
Collections .....	88.75	
Furniture and fixtures .....	160,266.48	
Livestock .....	8,839.39	
Machinery, tools, and appliances .....	45,400.83	
Total Equipment, Schedules C-1 and C-3 .....		293,436.28
LANDS .....	2,200.00	
NEW BUILDINGS .....	53,329.78	
ADDITIONS TO BUILDINGS .....	409,281.56	
IMPROVEMENTS .....	107,102.26	
Total, Schedules C-1 and C-4 .....		571,913.60
<b>DORMITORIES AND DINING HALLS:</b>		
Home Economics Cafeteria .....	15,338.80	
Pomerene Cafeteria .....	35,295.79	
Residence Halls for Women .....	63,564.78	
Total Dormitories and Dining Halls .....		114,199.37
<b>COMMERCIAL:</b>		
Telephone .....	18,888.74	
University Press—Bookstore .....	125,635.50	
University Press—Print Shop .....	103,071.63	
Warehouse .....	389,452.89	
Total Commercial .....		637,048.76
ATHLETIC DEPARTMENT .....		217,134.01
Total Expenditures, Schedules A and C-1 .....		\$ 6,556,662.94

## BALANCE SHEET JUNE 30, 1928

## ASSETS

## CURRENT ASSETS:

Cash in bank on hand for current expense .....	\$ 601,404.03
Deposits .....	454.00
Auditor of State, Special Appropriations .....	2,834,975.12
Warehouse (Supplies per inventory) .....	231,800.58

## INVESTMENT ASSETS:

State Treasurer (irreducible debt of the State) .....	1,112,390.06
Ohio State University Treasurer .....	88,524.67

## EDUCATIONAL PLANT:

Lands, Buildings, and Equipment .....	15,896,897.37
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Total Assets .....	<u>\$20,716,445.83</u>
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## LIABILITIES

## CURRENT LIABILITIES:

Special State Appropriations .....	\$ 2,834,975.12
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## ENDOWMENT FUNDS:

Funds for General Purposes, Invested .....	967,892.39
Funds for Special Purposes, Invested .....	183,022.34

## DEBT AND CAPITAL ACCOUNT:

Bonds or Mortgages Against Plant .....	
Capital Account .....	16,730,555.98

Total Liabilities .....	<u>\$20,716,445.83</u>
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## GIFTS FOR GENERAL AND DESIGNATED PURPOSES

For Gifts for Endowment Funds, See Schedule H-2, Page 36

The following items are turned into the State Treasury to the credit of Rotary Funds for use by the University:

Broadcasting Station .....	\$ 1,648.00
A gift from the <i>Columbus Dispatch</i> and the <i>Columbus Citizen</i> for broadcasting the Michigan-Ohio State Football Game.	
Cambridge Sanitary Manufacturing Company .....	70.00
A gift for the support of a fellowship in the College of Engineering.	
Chemistry Students .....	274.18
A gift for the purchase of bronze tablets designating the names of the laboratories in the New Chemistry Building.	
Class of 1905 .....	225.00
A gift for repairing the Sun Dial.	
Columbus Scholarship Society .....	500.00
A gift to establish a Student Loan Fund.	
Dayton Alumnae Association .....	100.00
A gift to establish a Student Loan Fund.	
Detroit Alumnae Association .....	500.00
A gift to establish a Student Loan Fund.	
Electric Porcelain Manufacturing Association .....	1,000.00
A gift for the support of a Fellowship.	
Findlay Clay Pot Company .....	375.00
A gift for the support of a Fellowship.	
Graduate School .....	1,660.00
Gifts for the publication of Doctors' Dissertations.	
Hollow Building Tile Association .....	900.00
A gift for the support of a Fellowship.	
International Students' Forum .....	90.00
A gift to establish a Student Loan Fund.	
Journalism Scholarship Fund .....	163.00



A gift to establish a Student Loan Fund.	
Faith Lanman .....	1,269.00
An amount donated by various individuals for the purchase of equipment for Home Economics Nursery	
National Electric Light Association .....	1,700.00
A gift for the Rural Electrification Project.	
National Agricultural Limestone Association .....	1,380.81
A gift for the support of a Fellowship in the Department of Soils	
Nelsonville Brick Company .....	2,000.00
A gift for research work in the Department of Ceramics.	
New York City Alumae Association .....	175.00
A gift to establish a Student Loan Fund.	
Ohio Branch—National Congress of Parents and Teachers.....	200.00
A gift for the program for the Educational Conference.	
Perry Okey .....	750.00
A gift to establish the Short Wave Antenna Fellowship.	
Ohio Ceramic Industries Association .....	1,366.64
A gift for research work in the Department of Ceramics.	
Eward Orton, Jr. ....	500.00
A gift for the purchase of books for the Orton Memorial Library.	
Phi Upsilon Omicron .....	150.00
A gift to establish a Student Loan Fund.	
Poultry Research Fund .....	3,100.00
Gifts from Buckeye Incubator Co. and Smith Incubator Co. for research work in the Poultry Department.	
Pullman Scholarship Fund .....	750.00
A gift to establish a Student Loan Fund.	
Julius F. Stone .....	1,105.43
A gift for research work in the Physics Department.	
University Women's Club of Pittsburgh .....	75.00
Total, Schedule B .....	<u>\$22,027.06</u>

## APPENDIX I

### BOARD OF TRUSTEES—1927-1928

	<i>Date Original Appointment</i>	<i>Term Expires</i>
EGBERT H. MACK, Sandusky.....	December 12, 1922	May 13, 1928
JOHN KAISER, Marietta .....	February 25, 1915	May 13, 1929
*JULIUS F. STONE, Columbus.....	March 17, 1925	May 13, 1930
LAWRENCE E. LAYBOURNE, Springfield.....	May 14, 1921	May 13, 1931
HARRY A. CATON, Coshocton.....	May 14, 1925	May 13, 1932
MRS. ALMA W. PATERSON, Columbus.....	March 27, 1924	May 13, 1933
HERBERT S. ATKINSON, Columbus.....	March 17, 1925	May 13, 1934

\* Julius F. Stone served also as a member from May 13, 1909 to March 21, 1917.

### OFFICERS OF THE BOARD

JULIUS F. STONE.....	<i>Chairman</i>
MRS. ALMA W. PATERSON.....	<i>Vice-Chairman</i>
CHARLES F. KETTERING.....	<i>Treasurer</i>
CARL E. STEEB.....	<i>Secretary and Business Manager</i>

## APPENDIX II

### ADMINISTRATIVE OFFICERS

*For the year ending June 30, 1928*

GEORGE W. RIGHTMIRE .....	<i>President</i>
Office—Administration Building, UN-3148; Campus 312.	
Residence—Ohio State University Campus, UN-3148; Campus 274.	
WILLIAM OXLEY THOMPSON.....	<i>President Emeritus</i>
Residence—55 Woodland Avenue, FR-4000.	
CARL E. STEEB.....	<i>Secretary of the Board of Trustees and Business Manager</i>
Office—Administration Building, UN-3148; Campus 332.	
Residence—190 West Eleventh Avenue, UN-4732.	
EDITH D. COCKINS.....	<i>Registrar, University Editor and Secretary of University Faculty</i>
Office—Administration Building, UN-3148; Campus 314.	
Residence—1580 Guilford Road, UN-9635.	
BLAND L. STRADLEY.....	<i>University Examiner</i>
Office—Administration Building UN-3148; Campus 412.	
Residence—Canal Winchester, No. 71.	
GEORGE W. ECKELBERRY.....	<i>Assistant to the President</i>
Office—Administration Building, UN-3148; Campus 380.	
Residence—1842 West Third Avenue, RA-2819-W.	
KATHERINE A. VOGEL.....	<i>Executive Clerk</i>
Office—Administration Building, UN-3148; Campus 312.	
Residence—209 South Monroe Avenue, FR-2356-W.	
CHARLES A. KUNTZ.....	<i>Comptroller</i>
Office—Administration Building, UN-3148; Campus 332.	
Residence—265 Tulnae Road, UN-2240-J.	



FLORIS D. HANE.....	Cashier
Office—Administration Building, UN-3148; Campus 371.	
Residence—373 Thirteenth Avenue, WA-1054.	
ESTHER A. GAW.....	Dean of Women
Office—Pomerene Hall, UN-3148; Campus 480.	
Residence—51 North Monroe Avenue, FR-1894.	
EMMA MCKINLEY PROUT.....	House Superintendent. Residence Hall
Office and Residence—Mack Hall, UN-3148; Campus 264.	
EDWARD S. DRAKE.....	Manager of Ohio Union
Office and Residence—Ohio Union, UN-3148; Campus 359.	
WILLIAM C. MCCracken.....	Chief Engineer and Superintendent of Buildings and Grounds
Office—Service Building, UN-3148; Campus 428.	
Residence—1778 North High Street, UN-2492.	
RAY M. ROYER.....	Purchasing Agent
Office—Administration Building, UN-3148; Campus 374.	
Residence—1828 Arlington Avenue, UN-0918-W.	
FRED E. JONES.....	Director of Stores and Receiving Department
Office—Service Building, UN-3148; Campus 354.	
Residence—255 Oakland Park Avenue, UN-7024-W.	
JOSEPH N. BRADFORD.....	University Architect
Office—Brown Hall, UN-3148; Campus 361.	
Residence—55 East Oakland Avenue, WA-2251.	

## APPENDIX III

## CHANGES IN FACULTY

## NEW APPOINTMENTS

1927-1928

Earl W. Anderson.....	Research Assistant and Associate Professor...	Bureau of Educational Research
Lt. Polk J. Atkinson....	Assistant Professor .....	Military Science
Traugott Böhme.....	Professor .....	German
Viva B. Boothe .....	Assistant Professor and Assistant Editor, Bureau of Publications.....	Bureau of Business Research
William M. Duffus.....	Professor .....	Business Organization
Edith F. Deadman.....	Assistant Professor .....	Home Economics
Dan H. Eikenberry....	Professor .....	School Administration
Marged Edith Jones....	Assistant Professor .....	Music
Robert M. King.....	Assistant Professor .....	Ceramic Engineering
Hans Kurath .....	Professor .....	German
Joseph A. Leeder.....	Associate Professor .....	Music
Lt. Wm. M. Mack.....	Assistant Professor .....	Military Science
Aristotle D. Michal....	Assistant Professor .....	Mathematics
Leonard B. Nice.....	Professor .....	Physiology
J. A. Park.....	Student Counselor .....	President's Division
A. L. Pierstorff.....	Assistant Professor .....	Botany
Ralph W. Powell.....	Assistant Professor .....	Mechanics
Margaret Robertson....	Assistant Medical Adviser (Assistant Professor) .....	Physical Education for Women
Alexander H. Schutz....	Assistant Professor .....	Romance Languages
H. Ezmond Smith.....	Assistant Professor .....	Commerce Extension
Guy Harold Smith.....	Assistant Professor .....	Geography
Maj. Alex. C. Sullivan...	Assistant Professor .....	Military Science
Jacob B. Taylor.....	Associate Professor .....	Accounting
Col. Gros. L. Townsend..	Professor .....	Military Science

## PROMOTIONS IN RANK

1927-1928

Claude E. Anibal.....	Assistant Professor to Associate Professor...	Romance Languages
John B. Alcorn.....	Instructor to Assistant Professor.....	Ophthalmology and Oto- Laryngology
Harold B. Alberty.....	Instructor to Assistant Professor.....	Principles of Education
Shirley Armstrong.....	Assistant Professor to Professor.....	Physical Education
William H. Bamberg.....	Instructor to Assistant Professor.....	Commerce Extension
Hugh G. Beatty.....	Assistant Professor to Associate Professor...	Ophthalmology and Oto- Laryngology
Arthur M. Brant.....	Instructor to Assistant Professor.....	Mineralogy
Aubrey I. Brown.....	Assistant Professor to Associate Professor...	Mechanical Engineering
Richard S. Buck.....	Instructor to Assistant Professor.....	Architecture
Paul H. Clyde.....	Instructor to Assistant Professor.....	History
J. Forest Craig.....	Instructor to Assistant Professor.....	English
Jesse E. Day.....	Assistant Professor to Associate Professor...	Chemistry
Wesley G. France.....	Assistant Professor to Associate Professor...	Chemistry
Erwin F. Frey.....	Instructor to Assistant Professor.....	Fine Arts
Albert D. Frost.....	Instructor to Assistant Professor.....	Ophthalmology and Oto- Laryngology
Lawrence H. Grinstead..	Assistant Professor to Associate Professor...	Bureau of Business Re- search
Frank H. Haskett.....	Instructor to Professor.....	Architecture
Harlan Hatcher.....	Instructor to Assistant Professor.....	English
Charles W. Hauck.....	Assistant to Assistant Professor.....	Rural Economics
Arch O. Heck.....	Assistant Professor to Associate Professor...	School Administration
Fred A. Hitchcock.....	Instructor to Assistant Professor.....	Physiology
H. Gordon Hullfish.....	Instructor to Assistant Professor.....	Principles of Education
Paul C. Kitchin.....	Instructor to Assistant Professor.....	Dentistry
Don P. Kockheiser.....	Instructor to Assistant Professor.....	Dairying
Frederick C. Landsittel..	Assistant Professor to Associate Professor...	Principles of Education
G. Leslie Lynch.....	Assistant Professor Landscape Architecture to Professor Fine Arts.....	Fine Arts
Galen F. Oman.....	Instructor to Assistant Professor.....	Architecture
Percy W. Ott.....	Assistant Professor to Associate Professor...	Mechanics
Montgomery E. Pike.....	Assistant Professor to Associate Professor...	Business Organization
Albert E. Puchstein.....	Assistant Professor to Associate Professor...	Electrical Engineering
Luella C. Pressey.....	Instructor to Assistant Professor.....	Psychology
Ward G. Reeder.....	Assistant Professor to Associate Professor...	School Administration
G. Oscar Russell.....	Assistant Professor to Associate Professor...	Romance Languages
John H. Schaffner.....	Professor to Research Professor.....	Botany
Raymond J. Seymour....	Assistant Professor to Professor.....	Physiology
Charles J. Shepard.....	Assistant Professor to Associate Professor...	Medicine
Dick P. Snyder.....	Instructor to Assistant Professor.....	Dentistry
Edmund M. Spicker.....	Assistant Professor to Associate Professor...	Geology
Charles W. Strosnider...	Instructor to Assistant Professor.....	Dentistry
Claude H. Wall.....	Instructor to Assistant Professor.....	Civil Engineering
Adolph E. Waller.....	Assistant Professor to Associate Professor...	Botany
George A. Washburne....	Assistant Professor to Professor.....	History
Russell S. Wilcox.....	Instructor to Assistant Professor.....	Accounting
Earl W. Wiley.....	Assistant Professor to Associate Professor...	English
Robert D. Williams.....	Assistant Professor to Associate Professor...	Psychology
M. Emmett Wilson.....	Assistant Professor to Associate Professor...	Music
Guy B. Wiser.....	Instructor to Assistant Professor.....	Fine Arts

## APPENDIX IV

Which shows the number of professors, officers, teachers, and other employees, and the position and compensation of each, as required by Section 7947 of an Act passed May 29, 1915.



## ANNUAL REPORT

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<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
George W. Rightmire .....	President .....	\$10,000.00
W. O. Thompson .....	President Emeritus .....	6,000.00

## COLLEGE OF AGRICULTURE

Alfred Vivian .....	Dean .....	7,000.00
True G. Watson .....	Secretary of the College .....	3,300.00
Bessie M. Freet .....	Assistant to the Dean .....	345.00
Mary L. Bradfield .....	Stenographer .....	180.00
Nora Peck .....	Stenographer .....	1,020.00
Beatrice Samson .....	Stenographer .....	680.00
Frances Behyner .....	Stenographer .....	1,020.00
Helen Coleman .....	Stenographer .....	1,020.00
Jane Allen .....	Stenographer .....	1,070.00
Helen V. Pyle .....	Stenographer .....	1,020.00
Margaret Wasem .....	Stenographer .....	85.00
Lela Bartlett .....	Stenographer .....	255.00
Phyllis Burckham .....	Stenographer .....	1,020.00
Hazel Monett .....	Stenographer .....	480.00
Flo Bailey .....	Stenographer .....	480.00
Cecelia Ryan .....	Stenographer .....	495.00
Lunda Irwin .....	Stenographer .....	80.00
Grace Trunick .....	Stenographer .....	861.94
Anna Fodey .....	Stenographer .....	35.65
Ruth Eckert .....	Stenographer .....	960.00
Ruth G. Curry .....	Stenographer .....	900.00
Alice C. Olds .....	Stenographer .....	793.33
Lena S. Howard .....	Stenographer .....	343.23
Aimee Abaugh .....	Stenographer .....	85.00
Crystal Barker .....	Stenographer .....	229.33

## AGRICULTURAL CHEMISTRY

John F. Lyman .....	Professor .....	4,800.00
R. C. Burrell .....	Assistant Professor .....	3,225.00
E. F. Almy .....	Assistant Professor .....	3,000.00
John D. Guthrie .....	Assistant .....	900.00
K. Kitsuta .....	Graduate Assistant .....	500.00
Carl P. Hinkle .....	Instructor .....	375.00
Mrs. R. W. Powell .....	Assistant .....	900.00

## AGRICULTURAL EDUCATION

W. F. Stewart .....	Professor (12 months) .....	3,000.00
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## AGRICULTURAL ENGINEERING

G. W. McCuen .....	Professor .....	3,600.00
C. O. Reed .....	Professor .....	3,743.75
P. B. Potter .....	Assistant Professor .....	2,700.00
Benton M. Stahl .....	Instructor .....	2,362.50
Walter Umbstaetter .....	Mechanic .....	1,650.00
J. T. Miller .....	Mechanic .....	1,400.00
Irwin F. Reed .....	Graduate Assistant .....	468.25
Harold E. Pinches .....	Graduate Assistant .....	281.25

## ANIMAL HUSBANDRY—INSTRUCTIONAL

Carl W. Gay .....	Professor .....	6,000.00
D. J. Kays .....	Professor .....	4,300.00
J. S. Coffey .....	Professor .....	4,300.00
S. M. Salisbury .....	Professor .....	4,150.00
C. S. Plumb .....	Professor .....	4,000.00
F. H. Helmeick .....	Graduate Assistant .....	900.00
E. E. Heizer .....	Graduate Assistant .....	500.00

## ANIMAL HUSBANDRY—EMPLOYEES

David M. Fyffe	Superintendent of Livestock	1,800.00
Robert Watson	Groom	1,800.00
John C. Thompson	Dairy Cattle Herdsman	1,800.00
William Franklin	Shepherd	1,440.00
Judson Solomon	Swine Herdsman	1,440.00
Ray Garrett	Assistant Herdsman	1,320.00
Cecil Bayes	Beef Cattle Herdsman	1,260.00
Jonathan Alban	Pavilion Groom	1,200.00
L. G. Souders	Assistant Shepherd	1,200.00
Jefferson Severe	Laborer	266.66
Alvin McAdoo	Laborer	1,200.00
Caleb Randall	Laborer	1,200.00
B. L. Cunningham	Laborer	1,200.00
Robert Straszheim	Student Laborer	40.00
G. T. Henderson	Laborer	1,000.00
Lomnie Paxton	Laborer	760.00
Jack T. Frost	Herdsman	330.00
Edgar Boerger	Laborer	172.00
Maurice Baird	Assistant Herdsman (Student)	466.67
Hugh Robinson	Assistant Herdsman (Student)	466.67
George Robb	Laborer	990.00
Gail W. Robson	Laborer (Student)	120.00
Albert Bell	Laborer	225.00
L. S. Bowers	Laborer	180.00

## BOTANY

E. N. Transeau	Professor	5,500.00
H. C. Sampson	Professor	4,250.00
W. G. Stover	Professor	4,000.00
J. H. Schaffner	Research Professor	3,750.00
A. E. Waller	Associate Professor	3,500.00
L. H. Tiffany	Assistant Professor	3,250.00
J. D. Sayre	Assistant Professor	1,800.00
Lois Lampe	Instructor	2,150.00
Sherman Humphrey	Instructor	1,650.00
Pearle E. Williams	Instructor	1,275.00
Wendell H. Camp	Instructor	1,350.00
C. W. Horton	Assistant	1,000.00
Minnie Johnson	Graduate Assistant	500.00
Hiram F. Thut	Graduate Assistant	650.00
George H. Brewer	Graduate Assistant	500.00
Robert B. Gordon	Graduate Assistant	500.00
Everitt Miller	Graduate Assistant	500.00
Bernard S. Meyer	Instructor	666.67
J. S. Crabb	Assistant	1,200.00
Bernard S. Meyer	Instructor	500.00
Alfred C. Vogele	Assistant	1,000.00
George Slesman	Graduate Assistant	150.00

## DAIRYING

Oscar Erf	Professor	4,500.00
R. B. Stoltz	Professor	4,250.00
H. D. Drain	Assistant Professor	2,950.00
D. S. Kochheiser	Assistant Professor	2,100.00
J. O. Kimbrough	Laborer	1,080.00
J. H. Erb	Graduate Assistant	500.00
John Lengacher	Assistant Professor	400.00
Harold C. Alberty	Instructor	200.00

## FARM CROPS

J. B. Park	Professor	3,200.00
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C. J. Willard .....	Professor .....	2,440.00
H. L. Borst .....	Instructor .....	1,475.00
Josephine B. McLaughlin.....	Assistant .....	500.00
Delmer M. Glenn .....	Graduate Assistant .....	500.00
Marion T. Meyers .....	Instructor .....	1,050.00

## FARM OPERATIONS

Thomas D. Phillips .....	Assistant Professor and Superintendent of Farm...	3,600.00
John DeWitt .....	Mechanic .....	1,560.00
Lloyd Blackburn .....	Mechanic .....	1,400.00
Charles Pugh .....	Head Teamster .....	1,320.00
M. Peck .....	Teamster .....	1,200.00
John Long .....	Laborer .....	1,200.00
S. N. Bell .....	Laborer .....	1,200.00
H. L. Bosart .....	Laborer .....	1,200.00
A. M. Farley .....	Laborer .....	1,200.00
Everett Clark .....	Laborer .....	1,200.00
Charles Ferguson .....	Laborer .....	1,160.00

## FRANZ THEODORE STONE LABORATORY

Raymond C. Osburn .....	Director .....	500.00
F. H. Kreckler .....	Assistant Director .....	500.00
C. H. Kennedy .....	Assistant Professor of Entomology .....	350.00
L. H. Tiffany .....	Assistant Professor .....	350.00
M. E. Stickney .....	Instructor in Botany .....	350.00
S. R. Williams .....	Instructor in Zoology .....	350.00
Theodore Phillips .....	Caretaker .....	1,500.00
Ernst Miller .....	Assistant Caretaker .....	1,320.00

## HOME ECONOMICS

Faith R. Lanman .....	Professor .....	3,400.00
Grace G. Walker .....	Professor .....	3,800.00
Hughina McKay .....	Professor .....	2,725.00
June F. Kennedy .....	Assistant Professor .....	3,000.00
Eve E. Turnbull .....	Assistant Professor .....	2,500.00
Alice Donnelly .....	Assistant Professor .....	1,800.00
Eunice Ryan .....	Instructor .....	2,475.00
Alma Heiner .....	Instructor .....	2,300.00
Elsie Minton .....	Instructor .....	2,200.00
Elizabeth C. Cooley .....	Instructor .....	1,650.00
Ottillie Rohe .....	Instructor .....	1,575.00
Glenna Schlitt .....	Assistant .....	86.56
Georgene Linn .....	Assistant .....	900.00
Glenna Schlitt .....	Assistant .....	675.00
Agnes Skinner .....	Assistant .....	500.00
Pauline W. Snyder .....	Assistant .....	675.00
Mildred Daane .....	Assistant .....	490.00
Leona Starr .....	Assistant .....	200.00
Marian J. Evans .....	Assistant .....	1,256.98
Pauline Snyder .....	Assistant .....	58.00
Marie Slesman .....	Student Assistant .....	135.00
Beatrice A. Turner .....	Student Assistant .....	135.00
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Mary V. Quill .....	Stenographer .....	110.23

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Erwin F. Frey .....	Assistant Professor .....	2,625.00
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Florence R. Kamber .....	Assistant .....	125.00
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Verena L. White .....	Graduate Assistant .....	300.00

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Claude G. Schimtt .....	Graduate Assistant .....	500.00
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William C. Barnett	Student Assistant	250.00
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Charles McElroy	Reader	60.00
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Ina McCall	Reader	60.00
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Lawrence D. Jones .....	Instructor .....	2,100.00
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Thomas O. Kuivinen .....	Assistant .....	800.00
John F. Hunt .....	Student Assistant .....	200.00
Kenneth Ehrhardt .....	Student Assistant .....	100.00
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Harold R. Miller .....	Student Assistant .....	300.00
Willard V. Grove .....	Instructor .....	400.00
Edward F. Tuta .....	Assistant .....	800.00
Robert M. Gatrell .....	Student Assistant .....	100.00
Charles O. Dewey .....	Student Assistant .....	100.00
Paul R. Lynn .....	Student Assistant .....	300.00
Russell G. Miller .....	Student Assistant .....	100.00
Paul Jeffries .....	Student Assistant .....	200.00
John A. Lane .....	Student Assistant .....	200.00
William E. Barth .....	Student Assistant .....	100.00

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Edward L. Harcourt .....	Senior Investigator .....	2,400.00
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U. W. Denamn .....	Instructor .....	2,000.00
J. A. Foust .....	Instructor .....	2,000.00
Harold Wright .....	Instructor .....	2,000.00
Peter Morrison .....	Instructor .....	1,500.00
C. M. Beem .....	Instructor .....	1,800.00
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Grace Bareis .....	Assistant Professor .....	2,400.00
Harry Beatty .....	Assistant Professor .....	2,400.00
Vaughn B. Caris .....	Assistant Professor .....	2,400.00
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Paul Bucher .....	Assistant Professor .....	2,800.00
Karl W. Stinson .....	Assistant Professor .....	2,700.00
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Samuel R. Beitler .....	Instructor .....	2,000.00
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R. L. Pratt .....	Helper and Fireman .....	2,000.00
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Richard Alford .....	Helper .....	916.00
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Frank A. Day .....	Consulting Director .....	250.00

## MINERALOGY

W. J. McCaughey .....	Professor .....	4,500.00
Arthur M. Brant .....	Assistant Professor .....	2,212.50
Joseph W. Gill .....	Student Assistant .....	270.00

## PHYSICS

A. D. Cole .....	Professor .....	5,000.00
Alpheus W. Smith .....	Professor .....	5,000.00
F. C. Blake .....	Professor .....	4,500.00
R. F. Earhart .....	Professor .....	4,250.00
H. G. Heil .....	Assistant Professor .....	3,500.00
Alva W. Smith .....	Assistant Professor .....	3,250.00
Rufus H. Snyder .....	Instructor .....	500.00
J. W. Sappenfield .....	Instructor .....	1,800.00
Francis L. Mears .....	Instructor .....	1,650.00
Frad J. Brooks .....	Assistant (12 months) .....	1,800.00
J. B. Sparrow .....	Assistant (12 months) .....	1,500.00
Louis M. Heil .....	Assistant .....	300.00
Joy Dillinger .....	Assistant .....	900.00
Paul L. Huber .....	Assistant .....	900.00
John R. Patty .....	Assistant .....	800.00
Ralph G. Owen .....	Graduate Assistant .....	500.00
Wallace T. Baker .....	Graduate Assistant .....	500.00
Paul W. Handel .....	Graduate Assistant .....	500.00
Margaret E. Schueller .....	Graduate Assistant .....	500.00
Charles B. Green .....	Graduate Assistant .....	500.00
Robert V. Zumstein .....	Instructor .....	1,950.00
Jerome B. Green .....	Instructor .....	1,950.00
Marathon E. High .....	Assistant .....	600.00

## COLLEGE OF LAW

Alonzo H. Tuttle .....	Acting Dean .....	7,000.00
Clarence D. Laylin .....	Professor .....	6,000.00
Lewis M. Simes .....	Professor .....	4,125.00
Robert E. Mathews .....	Professor .....	5,375.00
Norman D. Lattin .....	Assistant Professor .....	4,187.50
Robert M. Hunter .....	Assistant Professor .....	3,187.50
William H. Rose .....	Assistant Professor .....	3,375.00
Myrtle Albaugh .....	Stenographer .....	1,200.00

## COLLEGE OF MEDICINE

Arthur J. Linn .....	Secretary to the Dean .....	2,000.00
Gladys Johnston .....	Technical Assistant .....	1,200.00
Elizabeth Flautt .....	Stenographer .....	960.00
Carl P. Effler .....	Technical Assistant .....	2,500.00
Margaret Rose .....	Technical Assistant .....	1,600.00
Katherine Worth .....	Technical Assistant .....	960.00
J. H. J. Upham .....	Dean .....	6,416.66

## ANATOMY

F. L. Landacre .....	Professor .....	6,000.00
Edward C. Buck .....	Professor .....	3,250.00
Rollo C. Baker .....	Assistant Professor .....	3,600.00
B. A. Knouff .....	Assistant Professor .....	3,600.00
Clarence I. Britt .....	Instructor .....	1,762.50
Dorothy Searles .....	Instructor .....	375.00
Dwight M. Palmer .....	Assistant .....	1,000.00
George W. Petznick .....	Student Assistant .....	300.00

Louis B. Stephan .....	Student Assistant .....	300.00
William Carr .....	Technician .....	300.00
George B. Watson .....	Assistant .....	1,000.00
W. Z. Kling .....	Student Assistant .....	300.00
Hugh Setterfiel .....	Instructor .....	1,275.00
B. F. Wenger .....	Student Assistant .....	100.00
Wallace W. Jackson .....	Technician .....	900.00
David Bender .....	Student Assistant .....	300.00

## BACTERIOLOGY

Charles B. Morrey .....	Professor .....	5,500.00
William A. Starin .....	Professor .....	4,250.00
Fred Speer .....	Assistant Professor .....	3,000.00
John G. McCrimmon .....	Instructor .....	1,725.00
George E. Helz .....	Instructor .....	1,200.00
Bernice G. Tracy .....	Instructor .....	900.00
Joseph A. Taylor .....	Laboratory Assistant (12 months) .....	1,200.00
John G. McCrimmon .....	Instructor .....	150.00
George W. Bond .....	Instructor .....	375.00

## MEDICINE

J. H. J. Upham .....	Professor .....	208.00
E. J. Gordon .....	Professor of Medicine and Director of Dispensaries .....	3,675.00
Elmer G. Horton .....	Professor .....	1,500.00
Jacob J. Coons .....	Professor .....	300.00
S. A. Hatfield .....	Assistant Professor .....	2,398.67
Joseph W. Leist .....	Assistant Professor .....	400.00
G. I. Nelson .....	Instructor .....	3,000.00
Lear H. Van Buskirk .....	Instructor .....	1,966.66
E. H. Baxter .....	Instructor .....	500.00
F. C. Wagenhals .....	Assistant Professor .....	300.00
Samuel B. Edelman .....	Instructor .....	500.00
Link Murphy .....	Assistant .....	200.00
Orville Baldwin .....	Assistant .....	100.00
H. LeFever .....	Instructor .....	750.00
John W. Larcomb .....	Assistant .....	66.67
Herbert M. Platter .....	Instructor .....	240.00

## OBSTETRICS

Andrews Rogers .....	Professor .....	1,650.00
Herman Koerper .....	Assistant Professor .....	700.00
Francis W. Davis .....	Assistant (12 months) .....	2,000.00
Thomas A. Vogel .....	Assistant .....	400.00

## OPHTHALMOLOGY AND OTO-LARYNGOLOGY

Hugh G. Beatty .....	Associate Professor .....	600.00
T. Rees Williams .....	Instructor .....	600.00
John B. Alcorn .....	Assistant Professor .....	500.00
Albert D. Frost .....	Assistant Professor .....	500.00
Russell G. Means .....	Instructor .....	300.00

## PATHOLOGY

Ernest Scott .....	Professor .....	5,000.00
Carl L. Spohr .....	Professor .....	4,000.00
Robert A. Moore .....	Instructor .....	1,725.00
Harry L. Reinhart .....	Instructor .....	1,350.00
Edith Miller .....	Instructor .....	1,700.00
Mortimer Banks .....	Technical Assistant .....	1,300.00
Clinton L. Bryant .....	Technical Assistant .....	1,300.00
Frederick Fri .....	Student Assistant .....	300.00
Ethel Ray Zorn .....	Technical Assistant .....	1,443.55



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Ruth M. Moore .....	Technical Assistant .....	1,050.00
Henry H. Swartzell .....	Assistant .....	150.00

## PHYSIOLOGY

Leonard B. Nice .....	Professor .....	3,750.00
A. M. Bleile .....	Professor .....	4,000.00
Raymond J. Seymour .....	Professor .....	4,000.00
Clayton McPeck .....	Assistant Professor .....	2,750.00
Edwin P. Durrant .....	Assistant Professor .....	2,700.00
Fred A. Hitchcock .....	Assistant Professor .....	2,625.00
H. E. Hamlin .....	Instructor .....	1,875.00
R. R. Durant .....	Instructor .....	1,905.00
D. W. Ashcraft .....	Assistant .....	750.00
Earl J. Spencer .....	Assistant .....	350.00
Mildred Stauffer .....	Technical Assistant .....	1,200.00
Milton O. Lee .....	Instructor .....	500.00
Frances Wardwell .....	Student Assistant .....	120.00
Florence Hughes .....	Student Assistant .....	60.00
Mary A. Hunter .....	Student Assistant .....	120.00
Audrey Bowers .....	Student Assistant .....	60.00
Mary E. Morris .....	Student Assistant .....	120.00
Elizabeth Landacre .....	Student Assistant .....	120.00
Helen G. McKenzie .....	Student Assistant .....	120.00
Helen Manahan .....	Student Assistant .....	120.00
Bernice B. Cecil .....	Student Assistant .....	60.00
Audrey Bowers .....	Student Assistant .....	60.00

## PHYSIOLOGICAL CHEMISTRY

Clayton S. Smith .....	Professor .....	4,750.00
John B. Brown .....	Assistant Professor .....	3,375.00
Helen L. Wikoff .....	Instructor .....	2,400.00
Roland Cox .....	Technical Assistant .....	1,200.00
Roscell T. Preston .....	Technical Assistant .....	1,000.00
Elah M. Deck .....	Graduate Assistant .....	500.00
Vincent C. Ward .....	Graduate Assistant .....	500.00
Stewart G. Morris .....	Graduate Assistant .....	500.00
Asia H. Whitacre .....	Student Assistant .....	50.00
John J. Wenzke .....	Student Assistant .....	50.00

## PUBLIC HEALTH

Emery R. Hayhurst .....	Professor .....	3,500.00
Norma Selbert .....	Assistant Professor .....	2,062.50
James S. Wilson .....	Assistant Professor .....	2,125.00
Edna M. McLaughlin .....	Clerk-Stenographer .....	500.00
Catherine Forrest .....	Assistant Professor .....	687.50

## SURGERY AND GYNECOLOGY

Verne A. Dodd .....	Professor .....	4,000.00
John W. Means .....	Assistant Professor .....	3,000.00
Leslie L. Bigelow .....	Assistant Professor .....	2,250.00
Luke V. Zartman .....	Assistant Professor .....	1,000.00
Hugh J. Means .....	Assistant Professor .....	900.00
Edwin A. Hamilton .....	Assistant Professor .....	500.00
Paul H. Charlton .....	Instructor .....	2,400.00
Philip J. Reel .....	Instructor .....	1,700.00
William N. Taylor .....	Instructor .....	360.00
George H. Shawaker .....	Instructor .....	300.00
Edward H. Wilson .....	Instructor .....	500.00
E. J. Stedem .....	Assistant .....	200.00
Howard Yonkem .....	Assistant .....	200.00
J. K. MacCready .....	Assistant .....	200.00

Frank F. Schmidt .....	Assistant .....	100.00
Faye Irvin .....	Technician .....	840.00

## UNIVERSITY HOSPITAL

Charles E. Findlay .....	Acting Superintendent of Hospital .....	3,400.00
Louise Tuttle McCleary .....	Chief Clerk .....	1,200.00
Alice Taylor .....	Clerk .....	1,200.00
LeEvelyn Gillam .....	Stenographer .....	1,200.00
Emma F. Neff .....	Telephone Operator .....	960.00
Doris Roach .....	Telephone Operator .....	985.00
Andrew J. Nemecek .....	Resident Physician .....	1,200.00
Lowell K. Ruff .....	Pharmacist .....	2,000.00
R. J. Mill .....	Assistant Pharmacist .....	100.00
Lucy V. Ailer .....	Superintendent of Nurses .....	1,900.00
Ruth K. Snowden .....	Assistant Superintendent of Nurses .....	1,800.00
Jean Anderson .....	Chief Nurse, Operating Room .....	533.00
Blanche Burkett .....	Night Supervisor .....	1,500.00
Julia Browning .....	Supervising Nurse .....	1,083.00
Ruth DeWolfe .....	Supervising Nurse .....	1,300.00
Robertta Philbrook .....	Supervising Nurse .....	1,300.00
Emily Stockford .....	Supervising Nurse .....	1,200.00
Ogla Atwood .....	Supervising Nurse .....	1,200.00
Freda Schacht .....	Supervising .....	854.84
Ruth Gray .....	Supervising Nurse .....	1,082.26
Ila Ward .....	Supervising Nurse .....	1,200.00
Ruth Berger .....	Supervising Nurse .....	400.00
Clarice Cassill .....	Supervising Nurse .....	400.00
Marjorie Swift .....	Supervising Nurse .....	1,200.00
Dorothy Newton .....	Dietitian .....	328.22
Wilda Hockenberry .....	Dietitian .....	1,788.33
J. H. Johnson .....	Chef .....	1,800.00
Clara Dennis .....	Assistant Cook .....	270.00
Julia French .....	Assistant Cook .....	780.00
Fannie Moore .....	Assistant Cook .....	720.00
Katherine Lacey .....	Assistant Cook .....	100.00
Bessie Shank .....	Cook .....	720.00
John Ril .....	Cook .....	561.67
Belle Carter .....	Diet Kitchen Helper .....	200.00
Doll Carter .....	Diet Kitchen Helper .....	600.00
Cora Harris .....	Diet Kitchen Helper .....	100.00
Helen Thomas .....	Diet Kitchen Helper .....	600.00
Christine Hamilton .....	Diet Kitchen Helper .....	600.00
Sarah Landers .....	Diet Kitchen Helper .....	600.00
Florence Jones .....	Diet Kitchen Helper .....	200.00
George Griffin .....	Dishwasher .....	720.00
Livingston Wright .....	Night Janitor .....	1,050.00
Ethel M. Booker .....	Dishwasher .....	150.00
Mary Mitchell .....	Pastry Cook .....	960.00
Lillie Willis .....	Housekeeper .....	600.00
Nora Massie .....	Seamstress .....	840.00
Fanny Thum .....	Seamstress .....	200.00
John Long .....	Orderly .....	200.00
George W. Butz .....	Orderly .....	50.00
Clyde Dawson .....	Orderly .....	280.83
Paul C. Grove .....	Orderly .....	280.83
Ernest Long .....	Janitor .....	1,200.00
Oscar Raver .....	Janitor .....	1,080.00
Ben Thomas .....	Orderly .....	1,080.00
Johnnie Wright .....	Janitor .....	1,080.00
Carl V. Spangler .....	Janitor .....	90.00
Charlotte Thum .....	Janitress .....	750.00
Elizabeth Rourke .....	Janitress .....	750.00
Mary Hamilton .....	Janitress .....	400.00
Vonnie Herndon .....	Janitress .....	600.00



## ANNUAL REPORT

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Lulu May Wyatt	Janitress	324.19
Martha Davis	Janitress	600.00
Walter C. Breth	Interne	200.00
Mary Ann Graber	Interne	200.00
Ian B. Hamilton	Interne	200.00
William E. Scaggs	Interne	200.00
John E. Hoberg	Interne	200.00
Frank R. Morrow	Interne	50.00
Martin L. Purdin	Interne	200.00
Alexander Doran	Interne	200.00
Frank M. Warner	Interne	200.00
Lellie Evans	Cashier	1,033.33
Alice C. Smith	Maid	118.33
Alice Bustin	Laboratory Technical Assistant	252.02
Edith Westervelt	Supervising Nurse	1,141.94
Ruth C. Moore	Housekeeper	1,000.00
Mayme E. Austin	Assistant Cook	500.00
Mattie Wilson	Diet Kitchen Maid	500.00
Elmer M. Kiner	Elevator Man	600.00
Lewis Carter	Dishwasher	60.00
Elizabeth Zimmerman	Bookkeeper	838.67
Ellen Neinkirchen	Janitress	276.67
Elvyn Waide	Janitor	900.00
Herschel C. Aldrich	Orderly (Student)	230.83
Mollie Brown	Diet Kitchen Maid	437.10
Ada Galloway	Supervising Nurse	150.00
Robert L. Snipes	Orderly (Student)	230.83
Marian F. Woolworth	Assistant Dietitian	651.51
Lola Lemley	Laboratory Technical Assistant	605.60
Elsie Mae Payne	Dishwasher	109.68
Dan Carlton	Dishwasher	283.45
Lola Stout	Janitress	19.36
Pauline Evans	Supervising Nurse	681.11
Mabel Ickes	Supervising	1,135.48
Maud E. Ruth	Seamstress	400.00
Russell Gardner	Interne	133.33
Anne Besse	Assistant Night Supervisor	666.67
Elnora Weigel	Supervising Nurse	800.00
Ruth Benton	Dishwasher	376.67
Clementine Berry	Dishwasher	376.66
Carrie Alice Osmer	Janitress	263.33
Emma Wright	Diet Kitchen Maid	350.00
Ila Alexander	Operating Room Supervisor	991.66
Lorene Hull	Typist	131.61
Ocie V. Thurston	Diet Kitchen Maid	172.58
Naomi Pfadt	Typist	85.00
Dorothy J. Orstedt	Stenographer	255.00
George McCleary	Storekeeper	480.00
Marcellus Waide	Orderly	321.29
Gertrude Conley	Maid	261.29
Joy Thomas	Telephone Operator	240.00
Florence B. Jones	Stenographer	425.00
Cornelius B. Clarke	Janitor	434.48
Margaret Porter	Typist	425.00
Roy Eugene Smith	Dishwasher	256.55
Clara Dalton	Maid	200.00
Rosalie Burgess	Maid	193.55
Addie D. Stanford	Laboratory Technical Assistant	562.50
Frank Morrow	Interne	83.33
Margaret Boyding	Maid	65.27
Josephine Shoaf	Stenographer	255.00
Lugina Prince	Diet Kitchen Maid	198.39
Alice Nickerson	Diet Kitchen Maid	167.74
Dorothy Heald	Assistant Dietitian	370.42

Julia Huber .....	Supervising Nurse .....	273.33
Florence B. Brown .....	Supervising Nurse .....	141.94
Melvina Abrams .....	Diet Kitchen Maid .....	135.00
Ruth Jackson .....	Maid .....	125.00
Dorothy Shoemaker .....	Telephone Operator .....	160.00
Velma Trent .....	Maid .....	98.39
Wilhelmine Werdelmann .....	Supervising Nurse .....	200.00
Norma P. Brown .....	Supervising Nurse .....	100.00
Viola Brown .....	Supervising Nurse .....	158.06
Major Bell .....	Orderly .....	33.33
Stockton Thomas .....	Orderly .....	33.33
Ada Galloway .....	Supervising Nurse .....	33.33

## UNIVERSITY HOSPITAL — NURSES

Nina Bargdill .....	Student Nurse .....	25.00
Sarah Bell .....	Student Nurse .....	25.00
Anne Besse .....	Student Nurse .....	12.50
Serena Clark .....	Student Nurse .....	50.00
Ruth Decker .....	Student Nurse .....	68.75
Pauline Evans .....	Student Nurse .....	18.75
Bernice Ewing .....	Student Nurse .....	50.00
Grace Gleckler .....	Student Nurse .....	18.75
Mildred Jester .....	Student Nurse .....	37.50
Velma Johnson .....	Student Nurse .....	37.50
Josephine Roberts .....	Student Nurse .....	43.75
Florence Wardell .....	Student Nurse .....	56.25
Helen Warner .....	Student Nurse .....	56.25
Estelle Gundrum .....	Student Nurse .....	56.25
Lessie Jones .....	Student Nurse .....	50.00
Francey Stuckey .....	Student Nurse .....	56.25
Marie Blaney .....	Student Nurse .....	75.00
Mary Barber .....	Student Nurse .....	75.00
Mildred Brenner .....	Student Nurse .....	75.00
Marie Connell .....	Student Nurse .....	75.00
Helen Fisher .....	Student Nurse .....	75.00
Hettie Griffith .....	Student Nurse .....	75.00
Mae Hamilton .....	Student Nurse .....	56.25
Ruth Jones .....	Student Nurse .....	75.00
Alice McConkey .....	Student Nurse .....	75.00
Edna Moore .....	Student Nurse .....	75.00
Inez Morris .....	Student Nurse .....	75.00
Dorothy Pfisterer .....	Student Nurse .....	25.00
Myrtle Ringer .....	Student Nurse .....	75.00
Ruth Roberts .....	Student Nurse .....	75.00
Hermagine Seidel .....	Student Nurse .....	75.00
Leah Shelt .....	Student Nurse .....	75.00
Cora Strohm .....	Student Nurse .....	75.00
Gail Washburn .....	Student Nurse .....	75.00
Anita Williams .....	Student Nurse .....	75.00
Rena White .....	Student Nurse .....	75.00
Margaret Owen .....	Student Nurse .....	75.00
Hilda Miller .....	Student Nurse .....	75.00
Irene Shuttleworth .....	Student Nurse .....	75.00
Cecile Stahl .....	Student Nurse .....	75.00
Vesta Mae Taylor .....	Student Nurse .....	31.25
Rachel Williams .....	Student Nurse .....	56.25
Martha Balthaser .....	Student Nurse .....	75.00
Julia Bunn .....	Student Nurse .....	75.00
Ruth Dolby .....	Student Nurse .....	75.00
Alleene Ellis .....	Student Nurse .....	75.00
Dorothy Fankhauser .....	Student Nurse .....	37.50
Lucile Fenton .....	Student Nurse .....	25.00
Ilo Herbert .....	Student Nurse .....	75.00
Margaret Hill .....	Student Nurse .....	75.00



## ANNUAL REPORT

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Hazel Jones	Student Nurse	75.00
Julia Lang	Student Nurse	50.00
Edna Moorehead	Student Nurse	75.00
Helen Severns	Student Nurse	75.00
Belle Shelton	Student Nurse	50.00
Frances Spalt	Student Nurse	75.00
Gladys Steenrod	Student Nurse	75.00
Delia Webb	Student Nurse	75.00
Wilhelmine Werdelman	Student Nurse	62.50
Alma Young	Student Nurse	75.00
Helen Armstrong	Student Nurse	68.75
Charlotte Bennett	Student Nurse	68.75
Gwendolyn Jones	Student Nurse	68.75
Irene Kooms	Student Nurse	68.75
Olive Mitchell	Student Nurse	18.75
Maxine Paxton	Student Nurse	68.75
Nellie Robinson	Student Nurse	43.75
Martha Schaeffer	Student Nurse	43.75
Blanche Skinner	Student Nurse	68.75
Ruby Spohn	Student Nurse	68.75
Lucy Sutton	Student Nurse	68.75
Dorothy Wilder	Student Nurse	68.75
Grace Richey	Student Nurse	25.00
Mary Anderson	Student Nurse	25.00
Mollie Badertscher	Student Nurse	25.00
Mary Balthaser	Student Nurse	25.00
Helen Baum	Student Nurse	25.00
Ida Black	Student Nurse	25.00
Zelma Brundige	Student Nurse	25.00
Ruth Cohen	Student Nurse	25.00
Anna Corey	Student Nurse	25.00
Harriet Delaplane	Student Nurse	25.00
Ora Easterday	Student Nurse	25.00
Evelyn Errett	Student Nurse	18.75
Margaret Fields	Student Nurse	25.00
Rhea Fishbaugh	Student Nurse	25.00
Beatrice Griffin	Student Nurse	12.50
Mary Hays	Student Nurse	25.00
Berteau Keeler	Student Nurse	25.00
Donna Kerst	Student Nurse	25.00
Ethel Kirchofer	Student Nurse	25.00
Olive Laird	Student Nurse	25.00
Margery Maxwell	Student Nurse	25.00
Adrienne Midlam	Student Nurse	25.00
Alice Miller	Student Nurse	25.00
Nellie Neill	Student Nurse	12.50
Louise Ort	Student Nurse	25.00
Eather Petty	Student Nurse	25.00
Isabel Schlegel	Student Nurse	25.00
Hazel Seip	Student Nurse	25.00
Wilma Stephendon	Student Nurse	25.00
Mabel Zulauf	Student Nurse	25.00
Mary Louise Smith	Student Nurse	12.50

## PHARMACY

Clair A. Dye	Dean	5,500.00
Clarence M. Brown	Assistant Professor	3,500.00
William S. Stevens	Instructor	2,700.00
Charles L. Williams	Instructor	2,137.50
William E. Keyser	Student Assistant	1,700.00
Frederick L. Geiler	Student Assistant	200.00
Richard M. McClarren	Student Assistant	200.00
Albert C. Smith	Student Assistant	200.00
Robert W. Hunter	Student Assistant	200.00

Helen C. Alber .....	Stenographer .....	403.55
Edith Nuber .....	Stenographer .....	270.00
Mary Collins .....	Stenographer .....	216.00

## VETERINARY MEDICINE

David S. White .....	Dean .....	7,000.00
Oscar V. Brumley .....	Professor .....	5,000.00
Leonard W. Goss .....	Professor .....	5,000.00
James D. Grossman .....	Professor .....	3,700.00
James H. Snook .....	Professor .....	3,500.00
John N. Shoemaker .....	Assistant Professor .....	3,200.00
R. E. Rebrassier .....	Assistant Professor .....	3,000.00
Walter R. Hobbs .....	Assistant Professor .....	2,900.00
Derwin W. Ashcraft .....	Instructor .....	2,400.00
Lewis H. Moe .....	Assistant .....	1,500.00
William H. Walker .....	Groom .....	1,260.00
Robert Millington .....	Groom .....	1,200.00
E. L. Clements .....	Technician .....	1,200.00
Marie Combs .....	Secretary to Dean .....	1,200.00
Mabel Spencer .....	Clerk .....	1,040.00
Christopher Millington .....	Assistant Groom .....	900.00

## GRADUATE SCHOOL

William McPherson .....	Dean .....	7,000.00
Alice A. Moran .....	Secretary to Dean (Stenographer) .....	2,000.00
Luella M. Wright .....	Stenographer .....	1,200.00
Harry W. Cordell .....	Fellow .....	500.00
Smiley M. Whinery .....	Fellow .....	500.00
Walter A. Flick .....	Fellow .....	500.00
Clarence O. Lehman .....	Fellow .....	166.00
Russell Davis .....	Fellow .....	500.00
Ruth V. Johnson .....	Fellow .....	500.00
Harriet P. Lattin .....	Fellow .....	500.00
James F. Lewis .....	Fellow .....	500.00
Ralph L. Miller .....	Fellow .....	500.00
Ralph J. Slattery .....	Fellow .....	500.00
Robert K. Summerbell .....	Fellow .....	500.00
Dorothy L. Keller .....	Scholar .....	300.00
R. L. Barrett .....	Scholar .....	100.00
Alexander W. Erlen .....	Scholar .....	300.00
Earle R. Caley .....	Scholar .....	300.00
Charles S. Clucas .....	Scholar .....	300.00
Clarence H. Cramer .....	Scholar .....	300.00
Austin G. Edison .....	Scholar .....	300.00
Robert C. Hockett .....	Scholar .....	300.00
Berthe C. Koch .....	Scholar .....	300.00
Hilda L. Lehman .....	Scholar .....	300.00
Esther M. Mitchell .....	Scholar .....	300.00
Carolyn G. Shover .....	Scholar .....	300.00
Walter C. McNelly .....	Scholar .....	300.00
Ruth Van Zandt .....	Scholar .....	300.00
Kno Hua Sun .....	Scholar .....	300.00
Randolph C. Downes .....	Fellow .....	334.00
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Emmett Stewart .....	Car Cleaner .....	1,200.00
Thomas Maher .....	Bus Driver (Laborer) .....	1,200.00
William J. Murray .....	Auto Painter .....	1,350.00
McKinley Stewart .....	Laborer .....	460.00

## ROADS AND GROUNDS — LANDSCAPE GARDENER

John E. Hussey .....	Landscape Gardener .....	2,100.00
Harold Esper .....	Assistant Landscape Gardener .....	1,900.00

## JANITORS

A. O. Kaiser .....	Inspector of Janitor Service .....	2,120.00
C. M. Hicks .....	Repair and Handy Man .....	1,320.00
Walter Penn .....	Janitor .....	1,320.00
William Daehler .....	Janitor .....	1,320.00
Harry Chantler .....	Janitor .....	1,320.00
A. D. Grayson .....	Janitor .....	1,320.00
R. M. Moore .....	Janitor .....	1,320.00
Oliver Smith .....	Janitor .....	1,320.00
L. F. Jordan .....	Janitor .....	1,320.00
William Cavanaugh .....	Janitor .....	1,320.00
W. Curry .....	Janitor .....	1,320.00
W. W. Smith .....	Janitor .....	1,320.00
Dan Brock .....	Janitor .....	1,320.00
J. R. Butler .....	Janitor .....	1,320.00
L. S. Hitchcock .....	Janitor .....	1,270.00
C. M. Shelton .....	Janitor .....	1,320.00
Forest Spencer .....	Janitor .....	1,320.00
C. A. Hopkins .....	Janitor .....	1,320.00
Arthur Stone .....	Janitor .....	1,300.00
Elmer McDowell .....	Janitor .....	1,320.00
M. Murphy .....	Janitor .....	1,320.00
John M. Wallace .....	Janitor .....	1,320.00
Edward Watson .....	Janitor .....	1,320.00
Charles E. Glover .....	Janitor .....	1,320.00
Willis Abbott .....	Janitor .....	1,320.00
George Wilson .....	Janitor .....	1,320.00
Elmer E. Smith .....	Janitor .....	1,320.00
C. Ashenhurst .....	Janitor .....	1,320.00
John M. Conti .....	Janitor .....	1,320.00
Lawrence J. McKenna .....	Janitor .....	1,320.00
William Eviston .....	Janitor .....	1,320.00
John S. Long .....	Janitor .....	1,320.00
George Perkins .....	Janitor .....	1,320.00
Charles Carter .....	Janitor .....	1,320.00
Joe Walker .....	Janitor .....	1,320.00
Peter J. Marquette .....	Janitor .....	1,320.00
Thad S. Blackwood .....	Janitor .....	1,320.00
William Shelton .....	Janitor .....	1,320.00
C. A. Hoppler .....	Janitor .....	1,320.00



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Michael Murphy	Janitor	1,320.00
George W. Newman	Janitor	1,320.00
Alexander McCall	Janitor	1,320.00
John H. Jaeger	Janitor	1,320.00
Fred Cardosi	Janitor	1,320.00
James H. Kramer	Janitor	1,320.00
William Goff	Janitor	1,320.00
M. F. Cooney	Janitor	1,320.00
John G. McCartney	Janitor	1,320.00
Charles G. Lane	Janitor	1,320.00
Monroe F. Walters	Janitor	1,320.00
Edward J. Long	Janitor	1,320.00
Patrick J. Keanan	Janitor	1,320.00
William H. Williams	Janitor	1,320.00
James Merrill	Janitor	1,260.00
James Gormley	Janitor	1,260.00
Joseph H. Dickson	Janitor	1,260.00
George E. Whitmer	Janitor	840.00
James E. Harrington	Janitor	1,260.00
Arch F. Thomas	Janitor	1,260.00
John B. Truitt	Janitor	1,260.00
Fred H. Henkel	Janitor	1,260.00
Robert Sams	Janitor	1,260.00
Charles E. Klink	Janitor	1,260.00
Thomas Scott	Janitor	1,260.00
Henry Sigler	Janitor	210.00
John F. Hill	Janitor	1,200.00
John Tordiff	Janitor	1,200.00
J. W. Brown	Janitor	1,200.00
E. J. Nutt	Janitor	1,200.00
H. Clemons	Janitor	1,200.00
David L. James	Janitor	1,200.00
Arthur Koenig	Janitor	600.00
J. E. Hoelscher	Janitor	600.00
R. M. Thaxton	Natorium Orderly	1,440.00
Mary Powers	Matron Rest Room	900.00
Clara Derflinger	Janitress	960.00
Viola Pareley	Janitress	900.00
Lou Cornett	Janitress	900.00
Rosa Lee Carter	Janitress	840.00
Ocie M. Power	Janitress	210.00
J. T. Christian	Elevator Man (Student)	240.00
M. S. Harvey	Elevator Man	660.00
Edward C. Allen	Janitor	1,260.00
L. A. Hall	Window Washer	1,260.00
Earl Bell	Window Washer	1,260.00
Clifford Gabbert	Janitor	1,050.00
Joe Forchieski	Janitor	1,100.00
William E. Conant	Janitor	900.00
Nellie Rhoades	Janitress	630.00
J. A. Von Schrlitz	Janitor	979.35
R. H. McGreevy	Elevator Man	480.00
John Cavanaugh	Janitor	50.00
Earl Grimm	Janitor	50.00
John Morris	Janitor	50.00
Edward J. Tyne	Janitor	440.00

## LAUNDRY

Elmer Andrews	Lauderer	1,200.00
Myrtle Faught	Laudress	1,200.00
May Rees	Laudress	960.00
Elizabeth Westenhaber	Laudress	840.00
Dolly Gray	Laudress	840.00
Clara Williams	Laudress	840.00

## THE OHIO STATE UNIVERSITY

Anna Krone .....	Laundress .....	560.00
Rose Long .....	Laundress .....	840.00
Inez Toy .....	Laundress .....	840.00
Marie Garrett .....	Laundress .....	140.00
Linora Holdren .....	Laundress .....	140.00

## UNIVERSITY ARCHITECT

J. N. Bradford .....	University Architect .....	4,000.00
H. F. Reichard .....	Chief Draftsman .....	3,600.00
C. F. Mayer, Jr. ....	Draftsman .....	3,000.00
F. E. Crider .....	Draftsman .....	2,800.00
A. H. Mickey .....	Superintendent of Construction .....	2,800.00
Herbert Baumer .....	Professor (half time) (9 months) .....	2,000.00
Elsie Edwards .....	Clerk .....	1,500.00

## UNIVERSITY SERVICE

Allen P. McManigal .....	Chimes Player .....	500.00
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## COMMERCE EXTENSION

Thomas L. Kibler .....	Director and Professor of Economics .....	6,000.00
John W. Sternberg .....	Assistant Professor of Business Finance .....	5,805.56
Charles H. Chase .....	Assistant Professor .....	3,375.00
H. Ezmond Smith .....	Assistant Professor .....	3,375.00
William H. Bamberg .....	Assistant Professor .....	3,187.50
R. H. Alspaugh .....	Instructor .....	2,812.50
Dorothy Obenour .....	Assistant to Director .....	375.00
Ayna J. Sharpe .....	Stenographer .....	1,300.00
J. B. Heckert .....	Professor .....	885.42
L. H. Grinstead .....	Professor .....	885.42

## BUREAU OF BUSINESS RESEARCH

Spurgeon Bell .....	Director and Professor .....	7,500.00
Willis Wissler .....	Professor .....	2,500.00
Ralph J. Watkins .....	Assistant Professor .....	1,250.00
L. H. Grinstead .....	Associate Professor .....	4,750.00
L. H. Grinstead .....	Assistant Professor .....	1,000.00
H. H. Shively .....	Assistant Professor .....	1,600.00
H. H. Shively .....	Assistant Professor .....	333.00
Josephine Lowrie .....	Research Assistant .....	2,000.00
Erla Wombold .....	Stenographer .....	1,600.00
Kathleen Scobie .....	Stenographer .....	1,200.00
Margaret Leer .....	Typist .....	1,200.00
Lucile C. Armentrout .....	Stenographer .....	1,080.00
Willis Wissler .....	Professor .....	833.34
A. E. Chandler .....	Research Professor .....	416.66
Howard G. Brunsman .....	Research Assistant .....	1,875.00
Dorothy Zarembski .....	Student Assistant .....	170.00
Ann Sykora .....	Student Assistant .....	110.00
W. B. Sanger .....	Student Assistant .....	60.00
Eugene Rasor .....	Student Assistant .....	120.00
Abbie Parsons .....	Student Assistant .....	50.00
Bernard Lade .....	Student Assistant .....	130.00
Willard Bartoe .....	Student Assistant .....	100.00
Margaret Fippin .....	Student Assistant .....	120.00
Chester Cowdrey .....	Student Assistant .....	120.00
Roy Bowersock .....	Student Assistant .....	150.00
Lauretta Yeamans .....	Part time Assistant .....	220.00
Josephine Sheskey .....	Part time Assistant .....	60.00
Louise Postle .....	Part time Assistant .....	150.00
Helen Parsons .....	Part time Assistant .....	170.00
Etoile Mitchell .....	Part time Assistant .....	170.00



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Bernice Hodson .....	Part time Assistant .....	100.00
Martha Griffith .....	Part time Assistant .....	140.00
Viva B. Boothe .....	Assistant Professor .....	1,875.00
Josephine Sheskey .....	Stenographer .....	330.00

## RESEARCH FARM MARKETING F-9

L. G. Foster .....	Assistant Professor .....	4,200.00
C. R. Arnold .....	Assistant Professor .....	1,200.00
J. F. Dowler .....	Instructor .....	2,500.00
P. G. Beck .....	Instructor .....	360.00
Edgar Arneson .....	Assistant .....	750.00
Myrtle Souders .....	Clerk .....	320.00
Dorothy Fuller .....	Clerk .....	960.00
Llewellyn A. Cramer .....	Assistant .....	687.50
Whitney B. Stout .....	Graduate Assistant .....	562.50
Ernest Hopkins .....	Assistant .....	1,350.00
Paul G. Ninnehan .....	Assistant .....	1,200.00
Helen Elliott .....	Clerk .....	586.67
John H. Sitterley .....	Assistant .....	500.00
Russell R. Innis .....	Assistant .....	187.50

## ENGINEERING EXPERIMENT STATION

Paul H. Mautz .....	Fellow .....	375.00
Paul Collins .....	Fellow .....	375.00
Helen Mae Blair .....	Fellow .....	375.00
Lawrence A. Zimmer .....	Graduate Assistant .....	120.00
Freda Oscherwitz .....	Stenographer .....	60.00
Elizabeth Webb .....	Office Assistant .....	60.00
L. B. Walton .....	Specialist .....	300.00
J. Paul Visscher .....	Specialist .....	100.00
Stephen R. Williams .....	Specialist .....	100.00

## MUSIC — F-9

Royal D. Hughes .....	Professor .....	5,850.00
Joseph A. Leeder .....	Associate Professor .....	4,500.00
J. W. Fay .....	Assistant Professor .....	300.00
M. Emmett Wilson .....	Associate Professor .....	150.00

## GRADUATE SCHOOL

Lura Bell Chamblin .....	Stenographer .....	425.00
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## DENTAL CLINIC — ROTARY

Earl G. Jones .....	Assistant Professor .....	750.00
Victor L. Steffel .....	Instructor .....	900.00
Frank C. Starr .....	Instructor .....	825.00
Webster M. Baker .....	Instructor .....	1,000.00
Wendell D. Postle .....	Instructor .....	1,375.00
Wilbur L. Marshall .....	Instructor .....	1,000.00
Vera Finley .....	Technical Assistant .....	132.00
Emma Smith .....	Technical Assistant .....	800.00
Edna Wallace .....	Stenographer .....	1,040.00
Allie F. Harness .....	Clerk .....	1,000.00
Mercedes Lang .....	Clerk .....	960.00
Virginia Moore .....	Clerk .....	720.00
Sue Merrill .....	Sterilization Technician (Janitress) .....	840.00
Mary Collison .....	Technical Assistant .....	466.67
Harry L. Knox .....	Student Assistant .....	132.00
O. O. Moberly .....	Superintendent of Laboratories .....	1,500.00
Dick P. Snyder .....	Assistant Professor .....	750.00
Nora Moore .....	Technical Assistant .....	120.42

## THE OHIO STATE UNIVERSITY

## COLLEGE OF MEDICINE — ROTARY BUDGETS

## BRACE SHOP — ROTARY 25

Oscar M. Peterson .....	Mechanic .....	2,400.00
Carl P. Effler .....	Technical Assistant .....	200.00

## DISPENSARIES — ROTARY 23

Katherine Worth .....	Technical Assistant .....	700.00
Grace Jordan .....	Assistant .....	400.00

## UNIVERSITY HOSPITAL — ROTARY 27

Jessie Jasper .....	Anesthetist .....	2,099.33
Charles F. Smoot .....	Anesthetist .....	300.00
Emily Greer .....	Assistant in Social Service (Technical Assistant) ..	1,725.00
Faye Irvin .....	Technician (part salary) .....	660.00
Edith Miller .....	Pathologist (part salary) .....	300.00
Bernard Ford .....	Janitor .....	500.00
Irene Ford .....	Janitress .....	394.67
Homer V. Bradshaw .....	Anesthetist .....	297.96
Emilie Kaiser .....	Anesthetist .....	798.39
Hugh J. Means .....	Consulting Radiologist .....	600.00
Ernest Scott .....	Pathologist .....	250.00
Carl L. Spohr .....	Clinical Pathologist .....	500.00
Bertha Dillon .....	Telephone Operator .....	229.33
Elijah McDavid .....	Janitor .....	93.55
Eunice McDavid .....	Janitress .....	74.84
Florence B. Brown .....	Supervising Nurse .....	100.00

## STORES AND RECEIVING — ROTARY

## GENERAL STORE ROOM

Charles Pugh .....	Stock Clerk .....	1,440.00
Frank Langworthy .....	Laborer .....	1,360.00
H. O. Baker .....	Laborer .....	1,260.00
D. R. Masters .....	Janitor .....	1,200.00
W. D. Myers .....	Laborer .....	1,200.00
Wilma L. Mulby .....	Stenographer .....	1,200.00

## LABORATORY SUPPLY STORE

C. W. McClintock .....	Storekeeper .....	3,400.00
H. W. Miller .....	Pharmacist .....	2,200.00
L. S. Gormley .....	Pharmacist .....	2,200.00
Frank D. Brill .....	Pharmacist .....	2,200.00
Fred L. Williams .....	Assistant Pharmacist .....	1,710.00
R. B. Leonard .....	Glass Blower .....	2,360.00
William E. Leonard .....	Glass Blower's Helper .....	1,320.00
H. L. Allison .....	Laborer .....	1,620.00
Robert Dowd .....	Laborer .....	400.00
Charles Selbach .....	Laborer .....	270.00
Clara Fleischer .....	Clerk .....	1,380.00
Stenna Logsdon Hiler .....	Clerk .....	1,080.00
Leslie W. Rees .....	Pharmacist .....	1,410.00
Maynard Hurst .....	Laborer .....	180.00
John E. Swain .....	Laborer .....	630.00
Amaza H. Sells .....	Laborer .....	630.00

## UNIVERSITY PRESS — PRINTING DEPARTMENT

R. W. Hodgson .....	Printer .....	2,704.00
C. D. Kalb .....	Printer .....	2,483.00
Joseph A. Krebs .....	Printer .....	2,444.00
Clyde Hodgson .....	Printer .....	2,444.00
Irvin G. Stein .....	Linotype Machinist Operator .....	2,652.00



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W. R. Stephens .....	Linotype Operator .....	2,496.00
W. H. Ziebold .....	Linotype Operator .....	2,444.00
Etta Weaver .....	Linotype Operator .....	2,430.85
Frank A. Huff .....	Compositor .....	2,496.00
Albert P. Taylor .....	Pressman .....	2,496.00
G. F. Rodocker .....	Pressman .....	2,023.00
W. J. Munroe .....	Pressman .....	2,431.00
Vern Osborne .....	Press Feeder .....	1,967.38
Elsie Rigby .....	Press Feeder .....	1,086.13
Charles W. Thompson .....	Bindery Foreman .....	2,565.70
William Taylor .....	Bookbinder .....	2,444.00
Anna B. Logan .....	Bindery and Pressroom Woman .....	1,508.00
Clara B. Harding .....	Bindery Woman .....	1,508.00
Louise Bierstedt .....	Bindery Woman .....	1,116.31
Frank Jones .....	Apprentice .....	975.00
Eileen Morrissey .....	Stenographer .....	1,080.00
Charles E. Watts .....	Foreman .....	1,066.66

## AGRICULTURAL EDUCATION — SMITH-HUGHES

W. F. Stewart .....	Professor (part salary) .....	1,600.00
H. W. Nisonger .....	Professor .....	3,750.00
H. G. Kenestruck .....	Assistant Professor .....	3,300.00
A. C. Kennedy .....	Instructor .....	3,000.00
E. O. Bolender .....	Instructor .....	3,000.00
R. G. McMurray .....	Instructor .....	2,700.00
F. J. Ruble .....	Instructor .....	2,800.00
T. H. Merriam .....	Instructor .....	1,691.00
Beatrice Babb .....	Stenographer .....	1,200.00
Howard McClarren .....	Instructor .....	1,125.00

## HOME ECONOMICS — SMITH-HUGHES

Alice Donnelly .....	Assistant Professor (part salary) .....	1,500.00
Hazel Huston .....	Assistant Professor .....	2,800.00
Clara Bancroft .....	Instructor .....	2,600.00
Margaret Black .....	Instructor .....	2,500.00
Esther Loomis .....	Instructor .....	2,300.00
Louise Shaner .....	Instructor .....	2,200.00
Marie Kuglen .....	Stenographer .....	1,260.00
Doris M. Horch .....	Assistant .....	900.00

## FARM ROTARY

Ruth Curry .....	Stenographer .....	270.00
Hester Whitmer .....	Stenographer .....	712.26
Jane Allen .....	Stenographer .....	100.00
George A. Bole .....	Professor .....	1,392.96

## POULTRY HUSBANDRY

Fred Speer .....	Research Fellow .....	750.00
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## LABORATORY SUPPLY STORE — MED. PRO RATA

Orville Dart .....	Diener .....	810.00
W. P. Elhardt .....	Storekeeper .....	889.00
Amos E. Luckhaupt .....	Lecture Assistant .....	1,200.00
Frank Brazinski .....	Pharmacist .....	725.30
Melvin L. Babb .....	Pharmacist .....	1,000.00
R. J. Mill .....	Pharmacist .....	333.00
Hugh B. McGlade .....	Storekeeper .....	125.00

# APPENDIX V

## THE WORK OF INSTRUCTORS—1927-1928

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
<b>ACCOUNTING</b>												
Elements of Accounting.....	401	5	5	401	5	228	401	5	184	401	5	95
Elements of Accounting.....	402	5	10	402	5	68	402	5	166	402	5	146
Outlines of Accounting.....	...	...	...	405	5	22	...	...	...	...	...	...
Principles of Accounting.....	601	5	8	601	5	33	601	5	52	...	...	...
Principles of Accounting.....	...	...	...	602	5	17	602	5	18	602	5	10
Cost Accounting.....	...	...	...	603	4	15	603	4	27	...	...	...
Cost Accounting.....	...	...	...	...	...	...	604	4	14	604	4	17
Problems in Cost Accounting.....	...	...	...	605	3	13	605	3	13	...	...	...
Institutional Accounting.....	...	...	...	...	...	...	...	...	...	606	5	14
Auditing.....	...	...	...	607	2	14	607	2	9	...	...	...
Auditing.....	...	...	...	...	...	...	608	2	6	608	2	11
Industrial Auditing.....	...	...	...	...	...	...	609	3	8	...	...	...
Income Tax Accounting.....	611	2	12	611	2	14	...	...	...	611	2	27
Constructive Accounting.....	...	...	...	612	4	7	...	...	...	612	4	23
Accounting Practice.....	...	...	...	613	4	19	613	4	12	...	...	...
Accounting Practice.....	...	...	...	...	...	...	614	4	8	614	4	13
Business Statement.....	616	3	6	616	3	20	...	...	...	616	3	49
Managerial Accounting.....	...	...	...	...	...	...	...	...	...	617	3	13
Retail Accounting.....	...	...	...	623	3	8	...	...	...	...	...	...
Factory Costs.....	...	...	...	...	...	...	...	...	...	624	5	24
Research in Accounting.....	...	...	...	801	3	1	...	...	...	...	...	...
Research in Accounting.....	...	...	...	...	...	...	802	3	2	...	...	...
<b>AGRICULTURAL CHEMISTRY</b>												
General Agricultural Chemistry.....	...	...	...	401	5	44	401	5	33	401	5	49
Household Chemistry.....	...	...	...	402	5	48	402	5	13	402	5	18
Household Chemistry.....	...	...	...	403	5	15	403	5	21	403	5	40
Advanced Biological Chemistry.....	...	...	...	601	5	12	...	...	...	...	...	...
Dairy Chemistry.....	...	...	...	604	5	9	...	...	...	...	...	...
Dairy Chemistry.....	...	...	...	...	...	...	605	5	10	...	...	...
Advanced Dairy Chemistry.....	...	...	...	...	...	...	...	...	...	606	5	6
Animal Nutrition.....	...	...	...	...	...	...	608	5	5	...	...	...
Special Problems.....	...	...	...	701	3-15	1	...	...	...	...	...	...
Plant Chemistry.....	...	...	...	...	...	...	801	5-15	5	...	...	...
Special Problems.....	...	...	...	802	5-15	2	802	5-15	2	802	5-15	4



Research Seminary	803 804	5-10-15 1	3 6	803 804	5-10-15 1	3 8	803 804	5-10-15 1	3 4
<b>AGRICULTURAL EDUCATION</b>									
Principles Applied to the Teaching of Vocational Agriculture in Secondary Schools...	400	5	4	...	...	...	400	5	10
Teaching of Vocational Agriculture to Secondary Schools	401	5	7	401	5	11	...	...	...
Observation of the Teaching of Vocational Agriculture	...	...	...	402	5	9	402	5	11
Supervised Teaching of Vocational Agriculture	...	...	...	403	5	9	403	5	11
Special Methods of Teaching Vocational Agriculture in Secondary Schools	601	5	12	601	5	7	601	5	7
Special Problems	801	3-12	15	801	3-12	5	801	3-12	3
<b>AGRICULTURAL ENGINEERING</b>									
Field Machinery	...	...	...	401	5	49	401	5	32
Plan Reading	...	...	...	402	3	22	402	3	42
Farm Motors and Tractors	...	...	...	...	...	...	404	5	23
Farm Utilities	...	...	...	...	...	...	405	5	10
Household Mechanics	...	...	...	406	5	52	406	5	27
Farm Concrete Construction	...	...	...	...	...	...	...	...	...
Farm Structures	...	...	...	602	5	6	602	5	6
Advanced Farm Power and Power Machinery	...	...	...	603	5	4	...	...	...
Farm Drainage	...	...	...	...	...	...	...	...	...
Advanced Field Machinery	...	...	...	...	...	...	...	...	...
Special Problems	...	...	...	701	3-15	3	...	...	...
Special Problems	...	...	...	...	...	...	702	3-15	3
<b>ANATOMY</b>									
Comparative Anatomy of the Vertebrates	...	...	...	401	5	40	...	...	...
Comparative Anatomy of the Vertebrates	...	...	...	...	...	...	402	5	24
Comparative Vertebrate Embryology	...	...	...	403	5	9	...	...	...
Comparative Vertebrate Embryology	...	...	...	...	...	...	404	5	35
Comparative Anatomy and Embryology	...	...	...	...	...	...	406	5	114
Comparative Anatomy and Embryology	...	...	...	...	...	...	...	...	...
Elementary Neurology	...	...	...	408	5	11	...	...	...
Visceral Anatomy	...	...	...	410	3	35	...	...	...
Microscopic Technique	...	...	...	...	...	...	411	5	6
Elementary Human Anatomy	...	...	...	...	...	...	...	...	...
Comparative Anatomy of the Vertebrates	...	...	...	...	...	...	...	...	...
Comparative Anatomy of the Vertebrates	...	...	...	...	...	...	414	5	58
The Eye	...	...	...	...	...	...	...	...	...
Human Anatomy	...	...	...	438	7	107	...	...	...
Human Anatomy	...	...	...	...	...	...	439	7	86
Histology and Embryology	...	...	...	...	...	...	...	...	...
Seminary	...	...	...	601	1	3	601	1	1
Advanced Comparative Anatomy	...	...	...	604	3-5	2	...	...	...

THE WORK OF INSTRUCTORS—1927-1928—Continued

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THE OHIO STATE UNIVERSITY

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Advanced Comparative Anatomy.....	...	...	...	...	...	...	605	3-5	4	...	...	...
Cytology .....	...	...	...	611	5	5	...	...	...	...	...	...
Cytology .....	...	...	...	...	...	...	612	5	7	...	...	...
Human Anatomy .....	...	...	...	621	5	105	...	...	...	...	...	...
Human Anatomy .....	...	...	...	...	...	...	622	5	91	...	...	...
Gross Anatomy .....	...	...	...	...	...	...	...	...	...	623	5	52
Histology .....	...	...	...	624	5	106	...	...	...	...	...	...
Embryology .....	...	...	...	...	...	...	625	2	79	...	...	...
Neurology .....	...	...	...	...	...	...	...	...	...	626	5	69
Typographical Anatomy .....	...	...	...	627	5	60	...	...	...	...	...	...
Special Advanced Anatomy .....	...	...	...	...	...	...	628	3	3	...	...	...
Advanced Embryology .....	...	...	...	...	...	...	802	5	1	...	...	...
Advanced Embryology .....	...	...	...	...	...	...	...	...	...	803	5	1
Anatomical Problems .....	...	...	...	...	...	...	...	...	...	806	5	1
ANIMAL HUSBANDRY												
Elementary Live Stock Judging.....	...	...	...	401	5	77	401	5	41	401	5	19
Feeding Live Stock.....	...	...	...	402	5	32	402	5	29	402	5	22
Types and Breeds of Live Stock.....	...	...	...	...	...	...	...	...	...	403	5	26
Dairy Cattle Breeds.....	...	...	...	405	3	7	...	...	...	...	...	...
Breeds of Beef Cattle and Swine.....	...	...	...	...	...	...	...	...	...	406	3	7
Horse Production and Management.....	...	...	...	...	...	...	601	5	11	...	...	...
Swine Production and Management.....	...	...	...	...	...	...	...	...	...	603	5	19
Dairy Cattle Production and Management.....	...	...	...	...	...	...	604	5	8	...	...	...
Sheep Production and Management.....	...	...	...	...	...	...	...	...	...	605	5	4
Advanced Live Stock Judging.....	...	...	...	606	5	8	...	...	...	...	...	...
Live Stock Markets and Marketing.....	...	...	...	608	5	8	...	...	...	...	...	...
Breeding Live Stock.....	...	...	...	...	...	...	609	5	16	...	...	...
Special Problems .....	...	...	...	701	3-15	12	701	3-15	4	701	3-15	4
Research .....	...	...	...	801	3-15	1	801	3-15	2	801	3-15	3
Winter Course .....	...	...	...	...	...	...	...	...	42	...	...	...
APPLIED OPTICS												
Theoretical Optics .....	...	...	...	401	5	8	...	...	...	...	...	...
Theoretical Optics .....	...	...	...	...	...	...	402	5	8	...	...	...
Theoretical Optics .....	...	...	...	...	...	...	...	...	...	403	5	8
Vision Optics .....	...	...	...	411	4	8	...	...	...	...	...	...
Vision Optics .....	...	...	...	...	...	...	412	4	8	...	...	...



<i>Vision Optics</i> .....	...	...	...	413	4	8
<i>Theoretical Applied Optics</i> .....	...	...	421	3	7	...
<i>Theoretical Applied Optics</i> .....	...	...	...	422	3	7
<i>Theoretical Applied Optics</i> .....	...	...	...	...	...	423
<i>Mechanical Optics</i> .....	...	...	431	1	7	...
<i>Mechanical Optics</i> .....	...	...	...	432	2	7
<i>Mechanical Optics</i> .....	...	...	...	...	...	433
<i>Clinical Laboratory Practice</i> .....	...	...	441	5	7	...
<i>Clinical Laboratory Practice</i> .....	...	...	...	442	5	7
<i>Clinical Laboratory Practice</i> .....	...	...	...	...	...	443

## ARCHITECTURE

Shades and Shadows .....	...	...	401	3	94	...	...	...	401	3	16
Perspective .....	...	...	...	...	...	402	3	64	...	...	...
Composition .....	...	...	...	...	...	...	...	...	403	3	70
Elements of Architecture .....	...	...	421	5	29	...	...	...	421	5	15
Order Problems .....	...	...	422	5	5	422	5	32	422	5	18
Order Problems .....	...	...	423	5	21	423	5	7	423	5	30
History of Architecture .....	...	...	544	3	80	...	...	...	...	...	...
History of Architecture .....	...	...	...	...	...	545	3	55	...	...	...
Architecture .....	...	...	...	...	...	...	...	...	546	3	45
Photography .....	...	...	611	3	25	...	...	...	611	3	32
Architectural Design .....	...	...	624	5	22	624	5	13	624	5	11
Architectural Design .....	...	...	625	5	1	625	5	18	625	5	10
Architectural Design .....	...	...	626	8	3	...	...	...	626	8	14
Construction—Wood .....	...	...	...	...	...	...	...	...	630	5	11
History of Architecture—Renaissance .....	...	...	634	3	20	...	...	...	...	...	...
History of Architecture—Modern .....	...	...	...	...	...	635	3	19	...	...	...
Construction—Timber Framing .....	...	...	...	...	...	640	5	25	...	...	...
Construction—Masonry .....	...	...	...	...	...	...	...	...	641	5	25
Professional Practice .....	...	...	...	...	...	...	...	...	715	5	25
Thesis .....	...	...	718	5	1	718	5	2	718	5	10
Advanced Architectural Design .....	...	...	727	8	9	727	8	4	727	8	1
Advanced Architectural Design .....	...	...	728	3	1	728	3	7	728	3	4
Ornament .....	...	...	...	...	...	729	5	11	...	...	...
Construction: Masonry and Concrete .....	...	...	736	5	6	...	...	...	...	...	...
Building Sanitation .....	...	...	...	...	...	737	2	26	...	...	...
Construction: Design .....	...	...	742	5	5	...	...	...	...	...	...
Construction: Design .....	...	...	...	...	...	743	5	7	...	...	...
Fire Protection .....	...	...	...	...	...	748	2	13	...	...	...

## ASTRONOMY

General Astronomy .....	...	...	401	5	130	401	5	55	401	5	28
General Astronomy .....	...	...	402	5	45	402	5	79	402	5	39
Practical Astronomy .....	...	...	...	...	...	...	...	...	601	3	1

## BACTERIOLOGY

General Bacteriology .....	...	...	431	5	19	...	...	...	...	...	...
Pathogenic Bacteriology .....	...	...	...	...	...	432	5	17	...	...	...
Bacteriology (Dental) .....	...	...	...	...	...	...	...	...	450	5	52

THE WORK OF INSTRUCTORS—1927-1928—Continued

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Students in All Sections Total No. of
General Bacteriology .....	607	5	60	607	5	102	...	...	...	607	5	37
Pathogenic Bacteria .....	608	3	46	...	...	...	608	3	47	...	...	...
Pathogenic Bacteria .....	609	3	37	...	...	...	609	3	20	...	...	...
Dairy Bacteriology .....	...	...	...	...	...	...	610	3	6	...	...	...
Dairy Bacteriology .....	...	...	...	...	...	...	611	3	4	...	...	...
Soil Bacteriology .....	...	...	...	...	...	...	...	...	...	612	3	2
Soil Bacteriology .....	...	...	...	...	...	...	...	...	...	613	3	1
Bacteriological Chemistry .....	...	...	...	...	...	...	...	...	...	616	3	7
Immunity and Serum Therapy .....	...	...	...	617	3	41	617	3	44	617	3	1
Pathogenic Protozoa .....	...	...	...	...	...	...	...	...	...	619	3	1
Advanced Dairy Bacteriology .....	...	...	...	...	...	...	...	...	...	623	5	1
Special Technique in Pathogenic Bacteriology .....	...	...	...	625	5	8	...	...	...	...	...	...
Special Technique in Pathogenic Bacteriology .....	...	...	...	...	...	...	626	5	6	...	...	...
Special Technique in Pathogenic Bacteriology .....	...	...	...	...	...	...	...	...	...	627	5	10
Medical Bacteriology .....	...	...	...	641	5	60	...	...	...	...	...	...
Medical Bacteriology .....	...	...	...	...	...	...	642	3	56	...	...	...
Special Technique in Veterinary Pathogenic Bacteriology .....	...	...	...	643	5	4	...	...	...	...	...	...
Bacteriology .....	...	...	...	...	...	...	644	3	4	...	...	...
Minor Investigations .....	...	...	...	646	3-5	1	646	3-5	1	...	...	...
Minor Investigations .....	...	...	...	...	...	...	...	...	...	647	3-5	1
Research Work in Pathogenic Bacteriology .....	...	...	...	801	5-10	3	...	...	...	...	...	...
Research Work in Pathogenic Bacteriology .....	...	...	...	...	...	...	802	5-10	3	...	...	...
Research Work in Pathogenic Bacteriology .....	...	...	...	...	...	...	...	...	...	803	5-10	3
Research Technology .....	...	...	...	804	5	2	...	...	...	...	...	...
BOTANY												
General Botany .....	401	5	36	401	5	351	401	5	225	401	5	209
General Botany .....	402	5	33	402	5	139	401	5	312	402	5	198
Local Flora .....	...	...	...	...	...	...	...	...	...	405	5	8
Local Flora .....	...	...	...	...	...	...	...	...	...	406	5	17
General Morphology of Thallophytes and Bryophytes .....	...	...	...	409	5	5	...	...	...	...	...	...
General Morphology of Pteridophytes and Spermatophytes .....	...	...	...	...	...	...	410	5	8	...	...	...
Plant Microtechnic .....	...	...	...	...	...	...	...	...	...	421	5	5
Plant Ecology .....	601	5	15	601	5	20	...	...	...	...	...	...
Plant Ecology .....	...	...	...	...	...	...	...	...	...	602	5	16



<i>Pteridophytes and Gymnosperms</i> .....	...	...	...	607	5	5	...	...	...	...	...	...
<i>Principles of Taxonomy—Monocotyls</i> .....	...	...	...	...	...	...	608	5	8	...	...	...
<i>Principles of Taxonomy—Dicotyls</i> .....	...	...	...	...	...	...	...	...	...	609	5	3
<i>Economic Botany</i> .....	...	...	...	...	...	...	620	5	6	...	...	...
<i>Physiological Research Methods</i> .....	...	...	...	...	...	...	633	3	9	...	...	...
<i>Experimental Plant Genetics</i> .....	...	...	...	...	...	...	...	...	...	635	5	1
<i>Methods in Plant Pathology</i> .....	...	...	...	...	...	...	...	...	...	651	3	4
<i>Mycology</i> .....	...	...	...	...	...	...	653	5	11	...	...	...
<i>Diseases of Fruit Crops</i> .....	...	...	...	655	3	9	...	...	...	...	...	...
<i>Diseases of Garden Crops</i> .....	...	...	...	...	...	...	657	3	7	...	...	...
<i>Diseases of Farm Crops</i> .....	...	...	...	...	...	...	...	...	...	659	3	4
<i>Minor Investigations: Taxonomy</i> .....	...	...	...	...	...	...	701	2-5	4	701	2-5	8
<i>Special Problems—Morphology</i> .....	...	...	...	...	...	...	...	...	...	702	2-5	2
<i>Minor Investigation:</i>												
<i>Physiology and Ecology</i> .....	703	2-5	10	703	2-5	6	703	2-5	5	703	2-5	4
<i>Pathology and Mycology</i> .....	...	...	...	704	2-5	4	704	2-5	2	704	2-5	4
<i>Economic Botany</i> .....	705	2-5	2	705	2-5	1	...	...	...	...	...	...
<i>Research in Systematic Botany</i> .....	...	...	...	801	3-10	1	801	2-10	3	...	...	...

# BUSINESS ORGANIZATION

<i>Social Science</i> .....	...	...	...	400	5	269	400	5	163	400	5	140
<i>Social Science</i> .....	...	...	...	401	5	72	401	5	181	401	5	157
<i>Business Communications and Adjustment</i>												
<i>Practices</i> .....	604	3	26	604	3	15	604	3	39	604	3	69
<i>Secretarial Problems</i> .....	...	...	...	...	...	...	606	3	7	...	...	...
<i>Business Statistics</i> .....	...	...	...	614	3	7	614	3	9	614	3	7
<i>Public Aspects of Industry</i> .....	...	...	...	...	...	...	620	1	193	...	...	...
<i>Business Law: Contracts</i> .....	...	...	...	621	3	92	621	3	99	621	3	64
<i>Business Law: Agency and Sales</i> .....	...	...	...	623	3	40	623	3	59	623	3	62
<i>Business Law: Negotiable Instruments</i> .....	...	...	...	625	3	39	625	3	37	625	3	36
<i>Business Law: Partnerships and Corporations</i>	...	...	...	...	...	...	...	...	...	627	3	26
<i>Business Law: Aspects of Credits and Col-</i>												
<i>lections</i> .....	...	...	...	629	3	14	629	3	21	...	...	...
<i>Business Organization and Control</i> .....	...	...	...	640	3	32	640	3	44	640	3	32
<i>Real Estate Principles and Practice</i> .....	...	...	...	642	3	25	...	...	...	642	3	33
<i>Real Estate Principles and Practice</i> .....	...	...	...	...	...	...	643	3	13	...	...	...
<i>Trade Associations</i> .....	...	...	...	...	...	...	645	3	15	...	...	...
<i>Corporation Finance</i> .....	650	5	22	650	5	52	650	5	54	650	5	79
<i>Industrial Finance</i> .....	...	...	...	...	...	...	...	...	...	652	3	49
<i>Railroad and Public Utility Finance</i> .....	...	...	...	...	...	...	656	3	31	...	...	...
<i>Investments</i> .....	...	...	...	658	3	15	...	...	...	658	3	25
<i>The Stock Market</i> .....	...	...	...	660	3	29	...	...	...	660	3	23
<i>The Money Market</i> .....	...	...	...	...	...	...	...	...	...	662	3	15
<i>Foreign Exchange</i> .....	...	...	...	...	...	...	665	3	22	...	...	...
<i>Practice Work in Banking</i> .....	...	...	...	666	1-3	2	...	...	...	...	...	...
<i>Practice Work in Banking</i> .....	...	...	...	...	...	...	667	1-3	7	...	...	...
<i>Practice Work in Banking</i> .....	...	...	...	...	...	...	...	...	...	668	1-3	5
<i>Bank Organization and Management</i> .....	...	...	...	...	...	...	670	3	13	...	...	...
<i>Savings and Trust Functions of Banks</i> .....	...	...	...	674	5	6	...	...	...	...	...	...
<i>Industrial Organization Management</i> .....	...	...	...	680	5	30	680	5	46	...	...	...
<i>Industrial Organization Management</i> .....	...	...	...	...	...	...	...	...	...	681	3	6
<i>Industrial Management Field Work</i> .....	...	...	...	684	3-6	10	...	...	...	684	3-6	17

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Material Organization and Management.....	...	...	...	685	3	8	685	3	17	685	3	17
Employment Organization and Management....	...	...	...	686	3	12	...	...	...	686	3	7
Production Organization and Management....	...	...	...	...	...	...	687	4	10	687	4	16
Office Organization and Management.....	...	...	...	691	4	45	691	4	56	...	...	...
Problems in Employment Organization and Management .....	...	...	...	695	1-3	3	...	...	...	...	...	...
Problems in Production Organization and Management .....	...	...	...	...	...	...	696	1-3	6	...	...	...
Industrial Problems .....	...	...	...	...	...	...	...	...	...	697	1-3	...
Marketing .....	700	5	28	700	5	77	700	5	83	700	5	59
Marketing Problems .....	702	3	11	702	3	22	702	3	35	702	3	22
Retailing and Wholesaling .....	...	...	...	705	4	39	705	4	34	705	4	33
Retailing and Wholesaling .....	...	...	...	...	...	...	...	...	...	706	4	27
Credit and Collections .....	...	...	...	709	3	27	709	3	26	709	3	47
Salesmanship .....	...	...	...	712	3	36	712	3	38	712	3	34
Principles of Advertising .....	...	...	...	716	3	40	716	3	67	716	3	43
Advertising Practice .....	...	...	...	...	...	...	...	...	...	717	3	11
Exporting and Importing .....	...	...	...	...	...	...	...	...	...	720	3	19
Exporting and Importing .....	...	...	...	721	3	15	...	...	...	...	...	...
Field Work in Marketing .....	725	3-6	6	725	3-6	1	...	...	...	...	...	...
Thesis in Marketing and Advertising .....	726	1-3	1	...	...	...	...	...	...	...	...	...
Thesis in Marketing and Advertising .....	...	...	...	...	...	...	727	1-3	4	...	...	...
Thesis in Marketing and Advertising .....	...	...	...	...	...	...	...	...	...	728	1-3	3
Ocean and Inland Water Commerce and Transportation .....	...	...	...	745	3	16	...	...	...	...	...	...
Valuation and Rate Problems of Railroads and Public Utilities .....	...	...	...	...	...	...	748	3	5	...	...	...
Traffic Management and Rate Making .....	...	...	...	...	...	...	752	3	20	...	...	...
Traffic Management and Rate Making .....	...	...	...	...	...	...	...	...	...	753	3	7
Life Insurance .....	...	...	...	...	...	...	...	...	...	760	3	20
Fire and Marine Insurance .....	...	...	...	...	...	...	...	...	...	762	3	5
Research in Corporation Organization and Finance .....	...	...	...	801	1-6	2	...	...	...	...	...	...
Research in Corporation Organization and Finance .....	...	...	...	...	...	...	802	1-3	7	...	...	...
Research in Corporation Organization and Finance .....	...	...	...	...	...	...	...	...	...	803	1-3	7
Railway Service and Regulation .....	...	...	...	805	1-3	1	...	...	...	...	...	...
Research in Marketing .....	817	1-6	7	817	1-6	10	...	...	...	...	...	...



Research in Marketing .....	...	...	...	...	...	818	1-6	10	...	...	...
Research in Marketing .....	...	...	...	...	...	...	...	...	819	1-6	7
Research in Banking .....	...	...	...	821	1-3	4	...	...	...	...	...
Research in Banking .....	...	...	...	...	...	822	1-3	3	...	...	...
Research in Banking .....	...	...	...	...	...	...	...	...	823	1-3	7
Graduate Seminary in Business Organization .....	831	2	12	831	2	9	...	...	...	...	...
Graduate Seminary in Business Organization .....	...	...	...	...	...	832	2	12	...	...	...
Graduate Seminary in Business Organization .....	833	2	1	...	...	...	...	...	833	2	6
Research in Industrial Management .....	...	...	...	835	1-6	3	...	...	...	...	...
Research in Industrial Management .....	...	...	...	...	...	836	1-3	3	...	...	...
Research in Industrial Management .....	...	...	...	...	...	...	...	...	837	1-3	2

#### CERAMIC ENGINEERING

Occurrence and Properties of Clays .....	401	...	...	...	...	...	4	42	...	...	...
Winning, Preparation and Forming .....	405	...	...	...	...	...	...	...	...	4	31
Drying and Forming .....	601	...	...	...	...	...	5	33	...	...	...
Bodies, Glazes and Color .....	605	...	...	...	...	...	...	...	...	4	31
Refractories and Furnaces .....	610	...	...	...	...	...	...	...	...	5	34
Ceramic Calculations .....	615	...	...	...	5	37	...	...	...	...	...
Physical and Chemical Measurements of Clays and Other Materials .....	620	...	...	...	...	...	5	34	...	...	...
Junior Inspection Trip .....	630	...	...	...	...	...	...	...	...	...	30
Laboratory Work in Ceramics .....	701	...	...	...	5	22	...	...	...	...	...
Laboratory Work in Ceramics .....	702	...	...	...	5	1	...	5	20	...	...
Laboratory Work in Ceramics .....	703	...	...	...	...	...	...	...	...	5	10
Laboratory Work in Ceramics .....	704	...	...	...	...	...	...	...	...	5	11
Ceramic Designing .....	705	...	...	...	5	21	...	...	...	...	...
Ceramic Designing .....	706	...	...	...	...	...	5	21	...	...	...
Ceramic Designing .....	707	...	...	...	...	...	...	...	...	...	...
Thesis .....	710	...	...	...	2	4	...	2	18	...	21
Thesis .....	711	...	...	...	4	4	...	...	...	4	2
Senior Inspection Trip .....	730	...	...	...	...	...	...	...	...	...	15
Testing of Clays with Reference to Industrial Adaptability .....	805	...	...	...	2	1	...	...	...	...	21
Porcelain for Electrical and Other Special Purposes .....	811	...	...	...	...	...	2	1	...	...	...
Advanced Experimental Work .....	815	...	...	...	2-5	2	...	...	...	...	...
Advanced Experimental Work .....	816	...	...	...	...	...	2-5	1	...	...	...
Advanced Experimental Work .....	817	...	...	...	...	...	...	...	...	2-5	1
Master's Thesis .....	...	...	...	...	6-12	1	...	...	...	...	...
Ph.D. Research .....	...	...	...	...	3-10	2	...	...	...	...	...

#### CHEMICAL ENGINEERING

Chemical Engineering Practice Work .....	...	...	...	...	...	...	...	...	501	5	10
Elements of Chemical Engineering .....	...	...	...	...	...	700	2	11	...	...	...
Industrial Chemistry .....	...	...	...	701	3	26	...	...	...	...	...
Industrial Chemistry .....	...	...	...	...	...	702	3	24	...	...	...
Chemical Engineering and Industrial Chemical Laboratory .....	...	...	...	706	5	23	...	...	...	...	...
Engineering Chemistry .....	...	...	...	...	...	707	3	21	...	...	...
Applied Electrochemistry .....	...	...	...	...	...	...	...	...	710	3	13

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
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Chemical Engineering Thesis .....	...	...	...	720	2	1	720	2	13	...	...	...
Chemical Engineering Thesis .....	...	...	...	...	2	...	...	...	...	721	5-6	13
Seminary in Industrial Chemistry .....	...	...	...	905	2	13	...	...	...	...	...	...
Seminary in Industrial Chemistry .....	...	...	...	906	2	7	906	2	11	...	...	...
Seminary in Industrial Chemistry .....	...	...	...	...	...	...	...	...	...	907	2	15
Chemical Research .....	...	...	...	...	...	...	950	5-15	12	950	5-15	12
										Inspection Trip West		41
CHEMISTRY												
Elementary Chemistry .....	...	...	...	401	5	664	401	5	101	...	...	...
Elementary Chemistry .....	...	...	...	...	...	...	402	5	554	402	5	90
Qualitative Analysis .....	403	5	13	...	...	...	...	...	...	403	5	266
General Chemistry .....	...	...	...	411	5	918	411	5	129	...	...	...
General Chemistry .....	...	...	...	...	...	...	412	5	730	412	5	101
Qualitative Analysis .....	413	5	24	...	...	...	...	...	...	413	5	544
Qualitative Analysis .....	...	...	...	421	4	147	...	...	...	...	...	...
Qualitative Analysis .....	...	...	...	...	...	...	422	4	122	...	...	...
Qualitative Analysis .....	...	...	...	...	...	...	...	...	...	423	4	88
Problems in Quantitative Analysis .....	...	...	...	...	...	...	...	...	...	424	1	46
Organic Chemistry .....	...	...	...	441	3	331	...	...	...	...	...	...
Organic Chemistry .....	442	2	3	...	...	...	442	3	276	...	...	...
Organic Chemistry .....	...	...	...	444	2	298	...	...	...	...	...	...
Organic Chemistry .....	...	...	...	...	...	...	445	2	258	...	...	...
Organic Chemistry .....	...	...	...	447	3	66	...	...	...	...	...	...
Organic Chemistry .....	...	...	...	...	...	...	448	3	62	...	...	...
Organic Chemistry—Laboratory .....	...	...	...	449	3	62	...	...	...	...	...	...
Organic Chemistry—Laboratory .....	...	...	...	...	...	...	450	3	46	...	...	...
Reading of Chemical Periodicals in German .....	...	...	...	...	...	...	...	...	...	581	3	11
Advanced Quantitative Analysis .....	...	...	...	621	4-5	4	...	...	...	...	...	...
General Quantitative Analysis .....	...	...	...	...	...	...	622	3	17	...	...	...
Gas Analysis .....	...	...	...	...	...	...	623	4-5	4	...	...	...
Advanced Qualitative Analysis .....	...	...	...	...	...	...	...	...	...	624	4-5	4
Water Analysis .....	...	...	...	...	...	...	...	...	...	625	5	13
Industrial Water Problems .....	...	...	...	...	...	...	627	3	4	...	...	...
Qualitative Organic Analysis .....	...	...	...	...	...	...	...	...	...	641	3	31
Quantitative Organic Analysis .....	...	...	...	...	...	...	...	...	...	642	3	8
Advanced General Chemistry .....	...	...	...	...	...	...	662	3	28	...	...	...
The Rare Elements .....	...	...	...	663	3	19	...	...	...	...	...	...
Inorganic Preparations .....	672	3	16	...	...	...	...	...	...	672	3	20



The Phase Rule .....	...	...	...	...	...	675	3	9	...	...	...
Physical Chemistry .....	681	3	30	681	3	36	...	...	...	...	...
Physical Chemistry .....	681	3	30	681	3	49	...	...	...	...	...
Physical Chemistry .....	681	3	30	681	3	49	...	...	...	...	...
Physical Chemistry .....	681	3	30	681	3	49	...	...	...	...	...
Physical Chemistry—Laboratory .....	691	2	23	691	3	27	691	2	17	...	...
Physical Chemistry—Laboratory .....	692	2	14	692	2	3	692	2	2	...	...
Physical Chemistry—Laboratory .....	693	2	13	693	2	2	693	2	3	693	2
Colloid Chemistry .....	695	3	18	695	3	7	695	3	7	...	...
Theoretical Electrochemistry .....	699	3-15	3	699	3-15	18	699	3-15	14	699	3-15
Minor Problems in Chemistry .....	699	3-15	3	699	3-15	18	699	3-15	14	699	3-15
Chemical Bibliography .....	...	...	...	...	...	782	1	27	783	1	31
Chemical Biography .....	...	...	...	...	...	822	3	4	...	...	...
Seminary in Analytic Chemistry .....	...	...	...	822	3	4	...	...	...	...	...
Advanced Organic Chemistry .....	842	3	9	841	3	20	842	3	19	...	...
Advanced Organic Chemistry .....	842	3	9	841	3	20	842	3	19	...	...
Advanced Organic Preparations: Laboratory .....	845	3-5	3	844	3-5	14	845	3-5	11	...	...
Advanced Organic Preparations: Laboratory .....	845	3-5	3	844	3-5	14	845	3-5	11	...	...
Seminary in Organic Chemistry .....	...	...	...	850	3	22	851	3	19	...	...
Seminary in Organic Chemistry .....	...	...	...	850	3	22	851	3	19	...	...
Seminary in Organic Chemistry .....	...	...	...	850	3	22	851	3	19	...	...
Physical Chemistry: Laboratory .....	861	3	8	861	3	9	862	3	4	865	2
Physical Chemistry: Laboratory .....	862	3	2	861	3	9	862	3	4	865	2
Atomic Structure .....	...	...	...	...	...	...	866	2	6	...	...
Seminary in Inorganic Chemistry .....	...	...	...	891	3	5	930	3	16	950	5-15
Seminary in Physical Chemistry .....	...	...	...	891	3	5	930	3	16	950	5-15
Historical Chemistry .....	950	5-15	13	950	5-15	33	950	5-15	37	950	5-15
Chemical Research .....	950	5-15	13	950	5-15	33	950	5-15	37	950	5-15
CIVIL ENGINEERING											
Land Surveying .....	...	...	...	401	5	61	401	5	14	402	5
Plane Surveying .....	...	...	...	401	5	61	401	5	14	402	5
Railroad Surveying .....	...	...	...	403	5	8	402	5	51	403	5
Topographic Drawing .....	...	...	...	404	4	4	404	4	52	405	4
Applied Descriptive Geometry .....	...	...	...	404	4	4	404	4	52	405	4
Summer Surveying Camp .....	407	6	10	411	3	49	...	...	...	411	3
Elementary Surveying .....	...	...	...	411	3	49	...	...	...	411	3
Topographic Surveying .....	...	...	...	601	5	42	...	...	...	...	...
Sanitary Engineering .....	...	...	...	602	5	49	...	...	...	...	...
Timber Construction .....	...	...	...	602	5	49	...	...	...	...	...
Stresses in Structures .....	...	...	...	...	...	...	603	5	41	...	...
Roads and Pavements .....	...	...	...	...	...	...	603	5	41	...	...
Cement and Concrete .....	...	...	...	...	...	...	...	...	...	604	5
Summer Surveying Camp .....	607	6	2	...	...	...	...	...	...	605	5
Precise Surveying .....	...	...	...	608	3	37	...	...	...	606	3
Adjustment of Observations .....	...	...	...	608	3	37	...	...	...	...	...
Timber and Masonry .....	...	...	...	...	...	...	609	3	32	...	...
Concrete Design .....	...	...	...	701	5	49	611	3	25	...	...
Water Supply Engineering .....	...	...	...	701	5	49	...	...	...	...	...
Masonry Construction .....	...	...	...	...	...	...	703	5	50	...	...
Masonry Structures .....	...	...	...	...	...	...	704	5	50	...	...
Thesis .....	...	...	...	706	1	45	706	1	6	705	5

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Thesis .....	...	...	...	...	...	...	707	2	45	...	...	...
Thesis .....	...	...	...	...	...	...	708	5	6	708	5	42
Factory Building Construction .....	...	...	...	...	...	...	711	...	...	711	3	26
Trusses .....	...	...	...	712	5	17	712	5	34	712	5	41
Concrete Design .....	...	...	...	713	5	11	...	...	...	...	...	...
Steel-Frame Buildings .....	...	...	...	...	...	...	714	5	9	...	...	...
Contracts and Specifications .....	...	...	...	...	...	...	...	...	...	732	3	18
Advanced Bridges .....	...	...	...	...	...	...	734	3	35	...	...	...
Advanced Bridges .....	...	...	...	...	...	...	...	...	...	735	3	15
Highway Materials .....	...	...	...	...	...	...	739	3	6	...	...	...
Civil Engineering .....	...	...	...	...	...	...	...	...	...	741	3	6
CLASSICAL LANGUAGES—GREEK												
Elementary Greek .....	401	5	4	401	5	19	...	...	...	...	...	...
Elementary Greek .....	...	...	...	...	...	...	402	5	8	...	...	...
Plato .....	...	...	...	...	...	...	...	...	...	403	5	8
Homer .....	...	...	...	404	5	6	...	...	...	...	...	...
Private Reading and Minor Problems .....	610	2-5	4	...	...	...	610	2-5	3	610	2-5	2
Greek Art .....	...	...	...	...	...	...	...	...	...	652	3	3
Principles of Historical Study of Language .....	701	3	9	...	...	...	...	...	...	701	3	20
Historical Grammar .....	...	...	...	720	3	4	...	...	...	...	...	...
Thesis .....	...	...	...	...	1	4	...	...	...	...	...	...
CLASSICAL LANGUAGES—LATIN												
Elementary Latin .....	...	...	...	401	5	51	...	...	...	...	...	...
Elementary Latin and Caesar .....	...	...	...	...	...	...	402	5	28	...	...	...
Caesar .....	...	...	...	...	...	...	...	...	...	403	5	13
Cicero, Orations .....	...	...	...	404	5	19	...	...	...	...	...	...
Vergil .....	...	...	...	...	...	...	405	5	15	...	...	...
Cicero, Horace and Ovid .....	...	...	...	406	5	41	...	...	...	...	...	...
Horace, Livy and Gellius .....	...	...	...	...	...	...	407	5	17	...	...	...
Latin Comedy .....	...	...	...	...	...	...	...	...	...	408	5	17
Sallust .....	...	...	...	...	...	...	...	...	...	409	5	15
Medical Latin .....	...	...	...	...	...	...	...	...	...	410	3	40
Catullus, Pliny, Tacitus .....	...	...	...	501	3	18	...	...	...	...	...	...
Advanced Readings in Latin .....	...	...	...	...	...	...	...	...	...	503	3	17
Advanced Reading in Latin .....	...	...	...	...	...	...	504	3	18	504	3	18



Comparative Literature .....	506	3	15	507	3	19	...	...	...	506	3	15
Roman Private Life .....	507	3	13	...	...	...	508	3	13	...	...	...
Roman Art and Archaeology .....	...	...	...	...	...	...	609	3	11	...	...	...
Historical Latin Grammar: Inflections .....	...	...	...	...	...	...	612	3	13	...	...	...
Latin Prose Composition .....	...	...	...	...	...	...	...	...	...	...	...	...
Latin Prose Composition .....	613	3	11	...	...	...	...	...	...	613	3	10
Proseminary I .....	...	...	...	...	...	...	615	3	16	...	...	...
Proseminary II .....	...	...	...	...	...	...	621	3	5	616	3	14
Roman Tragedy .....	...	...	...	...	...	...	...	...	...	...	...	...
Advanced Reading Course in Tacitus .....	...	...	...	...	...	...	625	3	5	624	3	6
Advanced Prose Composition .....	...	...	...	...	...	...	...	...	...	...	...	...
Paleography .....	...	...	...	626	3	15	...	...	...	...	...	...
Vulgar Latin .....	...	...	...	...	...	...	627	3	6	...	...	...
Seminary in the Latin Historiography .....	...	...	...	807	3	14	807	3	14	...	...	...
Seminary in the Latin Philosophical Writers .....	...	...	...	...	...	...	...	...	...	809	3	12

### DAIRYING

Principles of Dairying .....	...	...	...	401	5	48	401	5	41	401	5	16
Farm Dairying .....	...	...	...	...	...	...	402	5	17	402	5	8
Testing of Milk Products .....	...	...	...	...	...	...	...	...	...	403	5	6
City Milk Supply .....	...	...	...	404	5	2	...	...	...	...	...	...
Butter Making .....	...	...	...	405	5	2	...	...	...	405	5	8
Dairy Practice .....	...	...	...	...	...	...	...	...	...	406	3-10	1
Soft Cheese Making .....	...	...	...	...	...	...	407	3	5	...	...	...
Hard Cheese Making .....	...	...	...	...	...	...	408	5	3	...	...	...
Milk Condensing .....	...	...	...	409	3	5	...	...	...	...	...	...
Ice Cream Making .....	...	...	...	410	5	4	...	...	...	...	...	...
Dairy Mechanics .....	...	...	...	411	3	4	...	...	...	...	...	...
City Milk Inspection .....	...	...	...	...	...	...	...	...	...	412	3	14
Advanced Dairying .....	...	...	...	...	...	...	413	3-5	7	413	3-5	4
Dairy Inspection Trip .....	...	...	...	...	...	...	...	...	...	602	3	2
Special Problems .....	...	...	...	701	3-15	7	...	...	...	701	3-15	6
Special Problems .....	...	...	...	...	...	...	702	3-15	5	702	3-15	10
Advanced Dairying .....	...	...	...	801	5-10	2	801	5-10	2	801	5-10	1

### OPERATIVE DENTISTRY

Dental Anatomy .....	...	...	...	...	...	...	402	2	92	...	...	...
Dental Anatomy and Operative Technic .....	...	...	...	...	...	...	...	...	...	403	3	88
Operative Technic .....	...	...	...	405	3	52	...	...	...	...	...	...
Operative Technic .....	...	...	...	...	...	...	406	3	59	...	...	...
Principles and Practice of Operative Dentistry .....	...	...	...	409	5	57	...	...	...	...	...	...
Principles and Practice of Operative Dentistry .....	...	...	...	...	...	...	410	5	56	...	...	...
Principles and Practice of Operative Dentistry .....	...	...	...	...	...	...	...	...	...	...	...	...
Principles and Practice of Operative Dentistry .....	...	...	...	413	4	54	...	...	...	411	5	54
Principles and Practice of Operative Dentistry .....	...	...	...	...	...	...	414	4	56	...	...	...
Principles and Practice of Operative Dentistry .....	...	...	...	...	...	...	...	...	...	415	4	54
Dental Hygiene—Immunology .....	...	...	...	...	...	...	...	...	...	416	1	39
Oral Hygiene .....	...	...	...	...	...	...	418	3	51	...	...	...
Dental Medicine .....	...	...	...	...	...	...	422	1	50	...	...	...
Dental Medicine .....	...	...	...	...	...	...	...	...	...	423	2	51
Dental Medicine .....	...	...	...	...	...	...	426	2	54	...	...	...
Dental Medicine .....	...	...	...	...	...	...	...	...	...	427	2	53

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
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Orthodontia Principles and Technic.....	...	...	...	...	...	...	...	...	...	431	2	51
Orthodontia .....	...	...	...	433	2	51	...	...	...	...	...	...
Orthodontia Principles and Technic.....	...	...	...	...	...	...	434	2	59	...	...	...
Orthodontia Principles and Technic.....	...	...	...	...	...	...	...	...	...	435	2	50
Anaesthetics .....	...	...	...	437	2	49	...	...	...	...	...	...
Anaesthetics .....	...	...	...	...	...	...	438	2	53	...	...	...
Anaesthetics .....	...	...	...	...	...	...	...	...	...	439	2	51
Ethics, Economics, History and Jurisprudence	...	...	...	441	1	51	...	...	...	...	...	...
Ethics, Economics, History and Jurisprudence	...	...	...	...	...	...	442	1	53	...	...	...
Ethics, Economics, History and Jurisprudence	...	...	...	...	...	...	...	...	...	443	1	52
Oral Surgery .....	...	...	...	445	2	53	...	...	...	...	...	...
Oral Surgery .....	...	...	...	...	...	...	446	2	55	...	...	...
Dental Pathology .....	...	...	...	...	...	...	...	...	...	452	2	71
Dental Pathology .....	...	...	...	450	2	71	...	...	...	...	...	...
Totals.....	...	...	...	...	...	...	...	...	...	...	...	...
PROSTHESIS (DENTISTRY)												
Prosthetic Dentistry Technic .....	...	...	...	401	4	102	...	...	...	...	...	...
Prosthetic Dentistry Technic .....	...	...	...	...	...	...	402	4	92	...	...	...
Prosthetic Dentistry Technic .....	...	...	...	...	...	...	...	...	...	403	4	89
Prosthetic Dentistry Technic .....	...	...	...	405	3	55	...	...	...	...	...	...
Prosthetic Dentistry Technic .....	...	...	...	...	...	...	406	3	59	...	...	...
Prosthetic Dentistry Principles and Practice.....	...	...	...	...	...	...	...	...	...	407	4	63
Prosthetic Dentistry Principles and Practice.....	...	...	...	409	3	57	...	...	...	...	...	...
Prosthetic Dentistry Principles and Practice.....	...	...	...	...	...	...	410	3	59	...	...	...
Prosthetic Dentistry Principles and Practice.....	...	...	...	...	...	...	...	...	...	411	3	53
Prosthetic Dentistry Practice .....	...	...	...	413	2	55	...	...	...	...	...	...
Prosthetic Dentistry Practice .....	...	...	...	...	...	...	...	...	...	415	2	53
Dental Metallurgy .....	...	...	...	...	...	...	...	...	...	419	2	47
Crown and Bridge Technic .....	...	...	...	421	3	56	...	...	...	...	...	...
Crown and Bridge Technic .....	...	...	...	...	...	...	422	2	59	...	...	...
Crown and Bridge Technic .....	...	...	...	...	...	...	...	...	...	423	2	59
Crown and Bridge Technic .....	...	...	...	425	2	54	...	...	...	...	...	...
Crown and Bridge Technic .....	...	...	...	...	...	...	426	2	51	...	...	...
Crown and Bridge Technic .....	...	...	...	...	...	...	...	...	...	427	2	54
Crown and Bridge Technic .....	...	...	...	429	2	56	...	...	...	...	...	...
Crown and Bridge Technic and Practice.....	...	...	...	...	...	...	430	2	57	...	...	...
Crown and Bridge Technic and Practice.....	...	...	...	...	...	...	...	...	...	431	2	55



ECONOMICS												
Principles of Economics	401	5	92	401	5	375	401	5	234	401	5	176
Principles of Economics	402	5	42	402	5	150	402	5	313	402	5	203
Principles of Economics for Engineers	...	...	...	403	3	58	403	3	37	...	...	...
Principles of Economics for Engineers	...	...	...	...	...	...	404	3	43	403	3	31
Principles of Economics for Agricultural Students	...	...	...	405	5	26	405	5	38	...	...	...
Principles of Economics for Home Economics Students	...	...	...	407	5	26	407	5	16	407	5	30
Outlines of Public Finance	...	...	...	409	5	30	...	...	...	409	5	40
Introduction to Study of Labor Problems	410	3	13	...	...	...	410	3	32	410	3	38
Modern Industrial Development	412	5	15	...	...	...	...	...	...	412	5	22
Economic Statistics	422	3	30	422	3	65	422	3	84	422	3	49
Principles and Problems of Economics	...	...	...	601	3	7	...	...	...	...	...	...
Principles and Problems of Economics	...	...	...	...	...	...	602	3	6	...	...	...
Principles and Problems of Economics	...	...	...	...	...	...	...	...	...	603	3	3
Financial History of U.S.	...	...	...	607	3	12	...	...	...	...	...	...
Financial History of U.S.	...	...	...	...	...	...	608	3	11	...	...	...
Money and Banking	610	5	36	610	5	91	610	5	88	610	5	82
Advanced Money	...	...	...	611	2	9	...	...	...	...	...	...
Advanced Banking	...	...	...	...	...	...	612	3	11	...	...	...
Corporation Economics	...	...	...	616	5	10	...	...	...	...	...	...
Trucks and Monopolies	...	...	...	617	3	5	...	...	...	...	...	...
Transportation Economics	...	...	...	618	5	55	618	5	43	618	5	50
Principles of Insurance	...	...	...	624	3	22	...	...	...	...	...	...
Economic Forecasting	...	...	...	...	...	...	625	2	10	...	...	...
Economic Forecasting	...	...	...	...	...	...	...	...	...	626	2	7
Public Finance	...	...	...	631	3	23	...	...	...	...	...	...
Public Finance	...	...	...	632	3	11	632	3	21	...	...	...
Public Finance	...	...	...	...	...	...	...	...	...	633	3	20
Industrial Relations	...	...	...	637	3	32	...	...	...	...	...	...
Labor Legislation	...	...	...	...	...	...	638	3	38	...	...	...
Social Insurance	...	...	...	643	4	10	...	...	...	639	32	30
Women in Industry	...	...	...	...	...	...	...	...	...	644	4	37
The Household	...	...	...	648	5	6	...	...	...	...	...	...
Economics of Public Service Industries	...	...	...	...	...	...	...	...	...	651	3	26
International Commercial Policies	651	3	22	...	...	...	...	...	...	655	2	14
Price and the Economic Cycle	...	...	...	656	3	7	...	...	...	...	...	...
Wages and Profits	...	...	...	...	...	...	657	3	8	...	...	...
Socialism	...	...	...	...	...	...	...	...	...	...	...	...
Economic Problems of Population	658	2	30	658	2	15	659	2	15	...	...	...
Economic Problems of Population	659	2	14	...	...	...	...	...	...	...	...	...
Economic History of the United States	...	...	...	661	3	6	662	3	7	...	...	...
Economic History of the United States	...	...	...	...	...	...	...	...	...	663	3	8
Economic History of the United States	...	...	...	...	...	...	802	3	15	...	...	...
History of Economic Thought	...	...	...	...	...	...	...	...	...	803	3	12
History of Economic Thought	803	3	14	...	...	...	...	...	...	...	...	...
Principles of Economics for College Teachers	...	...	...	810	2	6	...	...	...	...	...	...
Modern Economic Theories	...	...	...	816	3	5	...	...	...	...	...	...
Modern Economic Theories	...	...	...	...	...	...	817	3	5	...	...	...
Modern Economic Theories	...	...	...	...	...	...	...	...	...	818	3	6
French and German Economics	819	2	5	819	2	4	...	...	...	...	...	...
French and German Economics	...	...	...	...	...	...	820	2	1	...	...	...

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Seminary in Economics and Statistics.....	...	...	...	822	2	12	...	...	...	...	...	...
Seminary in Economics and Statistics.....	...	...	...	...	...	...	823	2	12	...	...	...
Seminary in Economics and Statistics.....	...	...	...	...	...	...	...	...	...	824	2	12
Research in Labor Problems and Legislation..	...	...	...	828	1-3	3	...	...	...	...	...	...
Research in Labor Problems and Legislation..	...	...	...	...	...	...	829	1-3	4	...	...	...
Research in Labor Problems and Legislation..	...	...	...	...	...	...	...	...	...	830	1-3	13
Research in Money and Banking.....	...	...	...	...	...	...	846	1-3	1	...	...	...
Research in Public Finance.....	...	...	...	851	1-3	1	...	...	...	...	...	...
Research in Public Finance.....	...	...	...	...	...	...	852	1-3	1	...	...	...
Research in Public Finance.....	...	...	...	...	...	...	...	...	...	853	1-3	2
Research in Economic Theory.....	...	...	...	857	1-3	1	...	...	...	...	...	...
Research in Statistics.....	...	...	...	860	1-2	5	...	...	...	...	...	...
Research in Insurance and Statistics.....	...	...	...	...	...	...	861	1-3	10	...	...	...
Research in Insurance and Statistics.....	...	...	...	...	...	...	...	...	...	862	1-3	8
ELECTRICAL ENGINEERING												
Direct Current Equipment.....	601	5	8	601	5	35	...	...	...	601	5	26
Alternating Current Circuits and Equipment..	...	...	...	605	5	27	605	5	32	...	...	...
Medium and High Frequency Currents.....	611	4	9	...	...	...	611	4	25	611	4	33
Applications, Control and Problems.....	...	...	...	...	...	...	...	...	...	620	3	49
Electrical Engineering.....	...	...	...	...	...	...	630	5	12	...	...	...
Electrical Equipment.....	...	...	...	...	...	...	...	...	...	635	3	15
Electrical Engineering.....	...	...	...	...	...	...	640	2	16	...	...	...
Electrical Engineering.....	...	...	...	...	...	...	...	...	...	641	5	16
Alternating Current Equipment.....	...	...	...	701	3	34	701	3	24	...	...	...
Alternating Current Laboratory.....	...	...	...	705	4	32	705	4	24	...	...	...
Alternating Current Laboratory.....	...	...	...	706	4	28	706	4	32	...	...	...
Electrical Railways.....	...	...	...	710	4	8	...	...	...	...	...	...
Wire Telephony and Telegraphy.....	...	...	...	715	4	39	...	...	...	...	...	...
Electrical Illumination.....	...	...	...	720	4	7	...	...	...	...	...	...
Electrical Illumination.....	...	...	...	722	3	24	...	...	...	...	...	...
Radio, Telegraphy and Telephony.....	...	...	...	...	...	...	725	4	30	...	...	...
Advanced Electrical Communication.....	...	...	...	...	...	...	...	...	...	726	4	16
Electrical Design.....	...	...	...	...	...	...	730	4	36	...	...	...
Advanced Electrical Design.....	...	...	...	...	...	...	...	...	...	731	3	18
Thesis.....	...	...	...	735	3	3	735	3	39	...	...	...
Thesis.....	...	...	...	...	...	...	736	5	1	736	5	39
Transmission and Distribution.....	...	...	...	...	...	...	...	...	...	740	3	55



Advanced Electrical Engineering Laboratory.....	...	...	...	...	...	...	...	745	4	42		
Special Advanced Reading .....	...	...	...	...	...	762	...	5	...	...		
Special Advanced Laboratory .....	...	...	...	...	...	...	...	767	3	1		
Application of Hyperbolic Functions to Electrical Engineering Problems .....	...	...	...	...	...	...	...	770	3	27		
Electrical Engineering .....	...	...	...	...	...	776	4	30	...	...		
Communication Engineering .....	...	...	785	4	13	...	...	...	...	...		
Advanced Theoretical Study of Electrical Engineering Practice and Equipment.....	801	3	2	801	3	2	...	...	...	...		
Advanced Theoretical Study of Electrical Engineering Practice and Equipment.....	...	...	...	...	...	802	5	3	...	...		
Advanced Theoretical Study of Electrical Engineering Practice and Equipment.....	...	...	...	...	...	...	...	803	5	4		
Advanced Laboratory Study of Electrical Engineering Equipment .....	...	...	...	...	...	805	...	5	...	...		
Advanced Laboratory Study of Electrical Engineering Equipment .....	...	...	...	...	...	...	...	807	...	1		
Research Work .....	...	...	811	5	2	...	...	...	...	...		
Research Work .....	...	...	...	...	...	812	5	3	...	...		
Research Work .....	...	...	...	...	...	...	...	813	5	3		
ENGLISH												
Theme Writing .....	305	2	5	...	...	...	...	...	...	...		
The English Bible .....	329	2	10	...	...	...	...	...	...	...		
Introduction to American Literature.....	333	2	53	...	...	...	...	...	...	...		
Wordsworth and Coleridge .....	340	2	11	...	...	...	...	...	...	...		
Tennyson .....	342	2	23	...	...	...	...	...	...	...		
Browning .....	343	2	16	...	...	...	...	...	...	...		
Nineteenth Century Prose .....	346	2	20	...	...	...	...	...	...	...		
Milton .....	359	2	15	...	...	...	...	...	...	...		
Shakespeare: English History Plays .....	366	2	24	...	...	...	...	...	...	...		
Shakespeare: Tragedies .....	367	2	18	...	...	...	...	...	...	...		
Recent and Contemporary Drama .....	370	2	20	...	...	...	...	...	...	...		
Recent and Contemporary Drama .....	371	2	8	...	...	...	...	...	...	...		
Predecessors of Shakespeare in English Drama .....	372	2	30	...	...	...	...	...	...	...		
Contemporaries and Immediate Successors of Shakespeare in English Drama .....	373	2	12	...	...	...	...	...	...	...		
Composition and Reading .....	401	5	64	401	5	926	401	5	619	401	5	565
Theme Writing .....	...	...	...	404	5	28	404	5	17	404	5	35
Theme Writing .....	405	5	38	405	5	45	405	5	54	405	5	50
Advanced Composition .....	...	...	...	407	5	34	...	...	...	...	...	...
English Composition .....	...	...	...	410	3	487	410	3	40	...	...	...
English Composition .....	...	...	...	...	...	...	411	3	422	411	3	40
English Composition .....	...	...	...	412	3	36	...	...	...	412	3	393
English Composition .....	...	...	...	419	3	60	419	3	41	419	3	63
Advanced English for Engineers.....	...	...	...	...	...	...	427	3	77	...	...	...
History of the English Language.....	...	...	...	...	...	...	428	3	83	428	3	77
English Words .....	...	...	...	428	3	83	428	3	83	428	3	77
The English Bible .....	429	5	44	429	5	42	429	5	52	429	5	58
Introduction to American Literature.....	433	5	149	433	5	688	433	5	675	433	5	672
Nineteenth Century Poetry .....	441	5	49	441	5	139	441	5	161	441	5	196
Nineteenth Century Poetry .....	442	5	65	442	5	91	442	5	118	442	5	186
Nineteenth Century Prose .....	446	5	52	446	5	118	446	5	110	446	5	150

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Eighteenth Century Poetry and Prose.....	636	5	28	636	5	55	...	...	...	...	...	...
The Essay .....	...	...	...	...	...	...	...	...	...	639	5	38
Literature and Composition .....	...	...	...	...	...	...	...	...	...	643	5	21
Middle English .....	...	...	...	...	...	...	...	...	...	646	3	3
Old English .....	...	...	...	651	3	13	...	...	...	651	3	2
Old English Poetry .....	...	...	...	...	...	...	652	3	2	...	...	...
Chaucer and His Principal Contemporaries and Successors .....	...	...	...	...	...	...	653	5	19	...	...	...
English Medieval Literature to Chaucer.....	...	...	...	654	5	24	655	5	99	...	...	...
The Novel: Richardson to Scott .....	...	...	...	...	...	...	...	...	...	...	...	...
The Novel: Dickens to Meredith.....	...	...	...	656	5	93	...	...	...	656	5	115
Versification .....	...	...	...	...	...	...	...	...	...	657	5	24
The Short Story .....	...	...	...	...	...	...	658	5	39	...	...	...
Milton and Dryden .....	659	5	33	659	5	31	...	...	...	...	...	...
The Celtic Renaissance .....	...	...	...	...	...	...	...	...	...	664	5	32
Shakespeare: Histories and Tragedies.....	667	5	44	667	5	84	...	...	...	...	...	...
Shakespeare: Comedies and Romances .....	...	...	...	...	...	...	668	5	120	...	...	...
Recent and Contemporary Drama.....	670	5	18	...	...	...	...	...	...	...	...	...
Shakespeare's Contemporaries and Predecessors in English Drama .....	672	5	42	...	...	...	...	...	...	672	5	55
*History of the Short Narrative in English...	...	...	...	801	2	25	...	...	...	801	2	4
*Honors Course .....	...	...	...	...	...	...	706-707	3	2	706-707	3	7
The Lyric .....	...	...	...	...	...	...	802	2	16	...	...	...
Studies in Criticisms .....	...	...	...	805	2	19	...	...	...	...	...	...
Studies in the Drama .....	806	2	8	...	...	...	806	2	16	...	...	...
The Later Novel .....	...	...	...	807	2	7	...	...	...	807	2	13
The Later Poetry .....	...	...	...	...	...	...	808	2	18	...	...	...
English and Scottish Popular Ballads.....	...	...	...	...	...	...	...	...	...	809	3	7
English Usage .....	...	...	...	810	3	16	...	...	...	...	...	...
Old and Middle English Philology.....	...	...	...	...	...	...	...	...	...	811	3	2
Studies in Seventeenth Century Literature...	815	5	5	815	5	5	...	...	...	...	...	...
Studies in Poetic Rhythm .....	...	...	...	...	...	...	816	2	1	...	...	...
Studies in the Romantic Movement.....	817	5	10	...	...	...	...	...	...	817	5	6
Studies in Eighteenth Century Literature...	...	...	...	818	5	7	818	5	18	...	...	...
Discussion of Dissertations .....	819	2-5	9	819	2-5	5	819	2-5	3	819	2-5	2
Discussion of Dissertations .....	820	2-5	6	...	...	...	820	2-5	18	820	2-5	2
Discussion of Dissertations .....	...	...	...	...	...	...	...	...	...	821	2-5	14
Play Writing .....	822	2	8	...	...	...	...	...	...	...	...	...



PUBLIC SPEAKING												
Principles and Practice of Public Speaking.....	401	5	45	401	5	178	401	5	82	401	5	222
Debating .....	402	5	402	5	20	402	5	43	102	5	22	22
Advanced Argumentation and Debate.....	.....	.....	.....	.....	.....	.....	.....	.....	407	5	8	.....
Advanced Debate Practice .....	.....	.....	410	5	6	.....	.....	.....	.....	.....	.....	.....
Extempore Speaking .....	.....	.....	.....	.....	.....	414	5	4	.....	.....	.....	.....
Masters of Public Address .....	.....	.....	.....	.....	.....	421	5	1	.....	.....	.....	.....
Principles and Practice of Oral Reading.....	459	3	16	.....	.....	459	3	23	.....	.....	.....	.....
The Forms of Public Address .....	.....	.....	.....	.....	.....	.....	.....	.....	625	5	9	.....
Special Problems in Theory of Public Speaking	.....	.....	.....	.....	.....	.....	.....	.....	651	5	2	.....

ENGINEERING DRAWING												
Elementary Mechanical Drawing	401	4	17	401	4	442	401	4	53	...	...	...
Mechanical Drawing	402	4	12	...	...	...	402	4	370	402	4	69
Descriptive Geometry	403	4	11	403	4	30	...	...	...	403	4	266
Descriptive Geometry	...	...	...	...	...	...	...	...	...	404	4	40
Mechanical Drawing	...	...	...	411	4	58	...	...	...	...	...	...
Engineering Drawing	...	...	...	...	...	...	412	4	49	...	...	...
Descriptive Geometry	...	...	...	...	...	...	...	...	...	413	4	36
Drawing and Sketching	...	...	...	414	2	103	...	...	...	...	...	...
Descriptive Geometry	...	...	...	...	...	...	...	...	...	415	4	11
Elements of Drawing and Lettering	...	...	...	...	...	...	...	...	...	416	2	20
Mechanical Drawing	...	...	...	418	3	6	...	...	...	...	...	...
Mechanical Drawing	...	...	...	421	3	75	...	...	...	...	...	...
Machine Drawing	...	...	...	...	...	...	422	3	87	...	...	...
Advanced Descriptive Geometry	...	...	...	424	4	53	...	...	...	...	...	...
Mechanical Drawing	...	...	...	425	2	81	...	...	...	...	...	...
Technical Drawing	...	...	...	426	3	39	...	...	...	429	3	29
Elementary Drawing	...	...	...	...	...	...	...	...	...	429	3	16
Drawing for Manual Arts Teachers	436	5	2	...	...	...	436	5	9	...	3	16
Projection Drawing	...	...	...	...	...	...	437	2	58	...	...	...
House Planning	...	...	...	438	3	47	...	...	...	438	3	56
Drawing in Business	...	...	...	...	...	...	439	5	25	...	...	...
Chemical Machine Drawing	...	...	...	...	...	...	701	2	18	...	...	...
Engineering Drawing	...	...	...	...	...	...	...	...	...	704	4	17

FARM CROPS												
Field Crop Production .....	401	5	8	401	5	24	401	5	21	401	5	34
Cereal Crops .....	...	...	...	402	5	6	...	...	...	...	...	...
Forage Crops .....	...	...	...	...	...	...	...	...	...	403	5	8
Special Crops .....	...	...	...	601	3	2	...	...	...	...	...	...
Minor Investigations .....	701	3-15	5	701	3-15	1	701	3-15	3	701	3-15	7
Research in Plant Breeding and Crop Production .....	801	5-10	3	...	...	...	...	...	...	801	5-10	1

FINE ARTS												
Elementary Freehand Drawing.....	321	2	9	...	...	...	...	...	...	...	...	...
Intermediate Design .....	332	3	18	...	...	...	...	...	...	...	...	...
Art Problems for Elementary Teachers .....	370	3	22	...	...	...	...	...	...	...	...	...
Art Problems for Teachers of Arts .....	371	3	6	...	...	...	...	...	...	...	...	...
Freehand Drawing .....	...	...	...	401	2	42	401	2	28	...	...	...
Freehand Drawing .....	...	...	...	...	...	...	...	...	...	403	2	25

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Advanced Freehand Drawing .....	...	...	...	404	2	18	...	...	...	...	...	...
Advanced Freehand Drawing .....	...	...	...	...	...	...	405	2	19	...	...	...
Water Color Painting .....	...	...	...	...	...	...	...	...	...	407	2	17
Water Color Painting .....	...	...	...	408	2	15	...	...	...	408	2	4
Drawing from Life .....	...	...	...	...	...	...	411	3	8	...	...	...
Drawing from Life .....	...	...	...	...	...	...	...	...	...	412	3	11
Elementary Freehand Drawing .....	421	5	11	421	5	86	421	5	81	421	5	54
Advanced Freehand Drawing .....	...	...	...	423	5	15	423	5	41	423	5	27
Drawing from Life .....	...	...	...	424	5	24	424	5	26	424	5	21
Advanced Life Drawing .....	...	...	...	425	5	9	425	5	15	425	5	19
Elements of Art .....	...	...	...	426	5	51	426	5	54	426	5	27
Elementary Design .....	...	...	...	431	5	9	431	5	13	431	5	27
Intermediate Design .....	...	...	...	432	5	4	432	5	12	...	...	...
Commercial Design .....	...	...	...	...	...	...	433	5	7	...	...	...
Thesis .....	...	...	...	...	...	...	...	...	...	434	5	5
Illustrative Drawing .....	...	...	...	435	5	2	...	...	...	...	...	...
Elements of Art: Advanced .....	...	...	...	436	3	25	436	3	46	436	3	22
Water Color Painting .....	441	5	10	441	5	11	...	...	...	441	5	26
Oil Painting .....	...	...	...	442	5	6	442	5	11	442	5	11
Advanced Oil Painting .....	...	...	...	443	5	8	443	5	8	443	5	7
Advanced Water Color .....	444	5	5	444	5	4	...	...	...	444	5	1
History of Classic Art .....	...	...	...	451	5	56	...	...	...	...	...	...
History of Medieval Art .....	...	...	...	...	...	...	452	5	53	...	...	...
History of Renaissance Art .....	...	...	...	...	...	...	...	...	...	453	5	54
Modern Painting and Sculpture .....	...	...	...	...	...	...	...	...	...	454	5	24
Modelling .....	...	...	...	461	5	3	461	5	9	461	5	7
Advanced Modelling .....	...	...	...	462	5	1	462	5	1	462	5	1
Technical Problems .....	...	...	...	465	3-5	8	465	3-5	1	...	...	...
Technical Problems .....	...	...	...	466	3-5	1	466	3-5	15	...	...	...
Technical Problems .....	...	...	...	467	3-5	1	...	...	...	467	3-5	21
Theory and Practice of Teaching Art .....	...	...	...	471	5	14	...	...	...	...	...	...
Appreciation of Art .....	475	1	49	...	...	...	...	...	...	...	...	...
Appreciation of Plastic Arts .....	...	...	...	476	1	108	...	...	...	...	...	...
Appreciation of Pictorial Arts .....	...	...	...	...	...	...	477	1	186	...	...	...
Appreciation of Popular Arts .....	...	...	...	...	...	...	...	...	...	478	1	156
Elementary Landscape Architecture .....	...	...	...	...	...	...	500	3	18	...	...	...
Landscape Architecture (Design) .....	...	...	...	...	...	...	510	3-5	16	...	...	...
Elementary Landscape Design .....	...	...	...	511	5	11	...	...	...	...	...	...
Elementary Landscape Design .....	...	...	...	...	...	...	512	3-5	8	...	...	...

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Physiography .....	...	...	...	415	5	16	...	...	...	...	...	...
Meteorology .....	...	...	...	...	...	...	...	...	...	420	5	10
Agricultural Geology .....	...	...	...	430	5	40	...	...	...	430	5	109
Engineering Geology .....	...	...	...	435	5	58	435	5	60	...	...	...
Advanced Paleontology .....	...	...	...	...	...	...	602	3-4	1	...	...	...
Advanced Paleontology .....	...	...	...	...	...	...	...	...	...	603	3-4	3
Economic Geology .....	...	...	...	605	3	8	...	...	...	...	...	...
Economic Geology .....	...	...	...	...	...	...	606	3	8	...	...	...
Economic Geology .....	...	...	...	...	...	...	...	...	...	607	3	8
Stratigraphic Geology of Ohio .....	...	...	...	608	5	6	...	...	...	...	...	...
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	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
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[illegible]

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	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
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Titles .....	...	...	...	...	...	...	...	4	102	...	...	...
Negotiable Instruments .....	...	...	...	...	4	71	...	...	...	...	...	...
Civil Procedure .....	...	...	...	...	3	123	...	...	...	...	...	...
Public Corporations .....	...	...	...	...	3	46	...	...	...	...	...	...
Evidence .....	...	...	...	...	...	...	...	3	101	...	3	96
Public Utilities .....	...	...	...	...	...	...	...	4	98	...	...	...
Federal Jurisdiction and Procedure .....	...	...	...	...	...	...	...	3	18	...	...	...
Domestic Relations .....	...	...	...	...	...	...	...	...	...	...	3	42
Legal Ethics .....	...	...	...	...	...	...	...	...	...	...	1	43
Legal History .....	...	...	...	...	...	...	...	...	...	...	3	13
<b>MATHEMATICS</b>												
Sub-Freshman Mathematics .....	...	...	...	400	3	156	...	...	...	...	...	...
Mathematics for Students of Agriculture .....	...	...	...	407	5	44	407	5	69	407	5	28



College Algebra	421	5	235	421	5	96	422	5	58
Plane Trigonometry	422	5	31	422	5	85	423	5	36
Analytic Geometry	429	5	31	429	5	35	430	5	3
Mathematics of Finance	431	5	423	431	5	200	432	5	231
Mathematics of Insurance	432	5	328	432	5	328	433	5	295
Plane Trigonometry	433	5	145	433	5	159	442	5	131
College Algebra	441	5	324	441	5	261	443	5	202
Analytic Geometry	442	5	51	442	5	51	601	5	32
Calculus	443	5	68	443	5	68	607	5	11
Calculus	601	5	32	607	5	11	611	5	29
Advanced Calculus	617	5	11	621	5	20	623	5	15
Introduction to the Theory of Functions of a Complex Variable	623	5	21	641	5	20	661	5	27
Differential Equations	641	5	20	684	5	8	692	5	6
Introduction to Modern Mathematics	691	5	6	692	5	6	800	3-5	3
Advanced Euclidian Geometry	800	3-5	5	800	3-5	3	801	3-10	3
Projective Geometry	814	5	4	812	5	8	814	5	4
Elementary Theory of Equations	841	5	7	850	5	6	855	5	4
Vector Analysis	850	5	6	855	5	4	856	5	3
Materials and Concepts of Elementary Mathematics	861	5	6	861	5	6	861	5	3
Probability	861	5	6	861	5	6	861	5	3
Finite Differences	861	5	6	861	5	6	861	5	3
Seminary in Mathematics	861	5	6	861	5	6	861	5	3
Reading and Research	861	5	6	861	5	6	861	5	3
Point-Sets	861	5	6	861	5	6	861	5	3
Problems in Analysis	861	5	6	861	5	6	861	5	3
Finite Groups	861	5	6	861	5	6	861	5	3
Theory of Numbers	861	5	6	861	5	6	861	5	3
Algebraic Numbers	861	5	6	861	5	6	861	5	3
Hypercomplex Numbers	861	5	6	861	5	6	861	5	3
Fourier's Series and Spherical Harmonics	861	5	6	861	5	6	861	5	3
MECHANICAL ENGINEERING									
Heat Power Engineering	409	3	69	409	3	69	409	3	69
Materials of Engineering	427	3	76	427	3	76	427	3	76
Practical Experience in a Mechanical Engi- neering Industry	439	5	34	439	5	34	439	5	34
Heat Engines	507	4	14	507	4	22	507	4	22
Heat Engines	509	3	57	509	3	57	509	3	57
Machine Designs	513	5	4	513	5	4	513	5	4
Machine Design	514	4	52	514	4	52	514	4	52
Machine Design	515	5	47	515	5	47	515	5	47
Mechanical Engineering Laboratory	531	2	62	531	2	62	531	2	62
Mechanical Engineering Laboratory	532	2	56	532	2	56	532	2	56
Mechanical Engineering Laboratory	533	2	54	533	2	54	533	2	54
Heating and Ventilating	551	2	19	551	2	19	551	2	19
Power, Generation and Transmission	560	5	29	560	5	29	560	5	29
Mechanical Engineering Laboratory	572	3	7	572	3	7	572	3	7
Mechanical Engineering Laboratory	573	5	50	573	5	50	573	5	50
Mechanical Engineering Laboratory	574	3	41	574	3	41	574	3	41
Mechanical Engineering Laboratory	575	3	9	575	3	9	575	3	9

## THE WORK OF INSTRUCTORS—1927-1928—Continued

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THE OHIO STATE UNIVERSITY

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Heating and Ventilating .....	...	...	...	...	...	...	605	4	14	605	4	36
Steam Engineering .....	...	...	...	607	5	36	...	...	...	...	...	...
Steam Engineering .....	...	...	...	...	...	...	608	5	35	...	...	...
Steam Engineering .....	...	...	...	...	...	...	...	...	...	609	3	32
Mechanism .....	...	...	...	614	4	26	...	...	...	...	...	...
Mechanism Drawing .....	...	...	...	...	...	...	616	2	26	...	...	...
Mechanical Engineering Laboratory .....	...	...	...	617	2	14	...	...	...	...	...	...
Gas Engines and Producers .....	...	...	...	...	...	...	...	...	...	625	3	30
Inspection Trip to the West .....	...	...	...	...	...	...	...	...	...	630	...	28
Reading Course .....	...	...	...	...	...	...	...	...	...	634	...	3
Practical Experience .....	...	...	...	639	5	2	...	...	...	...	...	...
A. S. M. E. Student-Branch Meetings .....	...	...	...	651	1/2	35	...	...	...	...	...	...
A. S. M. E. Student-Branch Meetings .....	...	...	...	...	...	...	652	1/2	30	...	...	...
A. S. M. E. Student-Branch Meetings .....	...	...	...	...	...	...	...	...	...	653	1/2	35
Mechanical Engineering Laboratory .....	...	...	...	...	...	...	664	3	32	...	...	...
Mechanical Engineering Laboratory .....	...	...	...	...	...	...	...	...	...	665	3	29
Automotive Engineering .....	...	...	...	...	...	...	704	3	15	...	...	...
Automotive Engineering .....	...	...	...	...	...	...	...	...	...	705	3	15
Industrial Engineering .....	...	...	...	...	...	...	...	...	...	713	3	30
Machine Design .....	...	...	...	727	5	47	...	...	...	...	...	...
Machine Design .....	...	...	...	...	...	...	728	5	46	728	5	46
Inspection Trip to the East .....	...	...	...	...	...	...	...	...	...	730	...	29
Reading Course .....	...	...	...	...	...	...	...	...	...	734	...	1
Hydraulic Machinery .....	...	...	...	742	3	34	...	...	...	...	...	...
Mechanical Engineering .....	...	...	...	...	...	...	...	...	...	743	3	14
Machine Design .....	...	...	...	...	...	...	...	...	...	744	5	31
Steam Turbines .....	...	...	...	...	...	...	746	3	15	...	...	...
Thesis Work .....	...	...	...	751	1/2	32	...	...	...	...	...	...
A. S. M. E. Student-Branch Meetings .....	...	...	...	...	...	...	752	1/2	30	752	1/2	30
A. S. M. E. Student-Branch Meetings .....	...	...	...	...	...	...	...	...	...	753	1/2	32
A. S. M. E. Student-Branch Meetings .....	...	...	...	...	...	...	754	3	12	...	...	...
Hydraulic Power .....	...	...	...	...	...	...	...	...	...	748	3-5	2
Mechanical Engineering Laboratory .....	...	...	...	779	3	32	...	...	...	...	...	...
Mechanical Engineering Laboratory .....	...	...	...	...	...	...	780	3	14	...	...	...
Automotive Engineering Laboratory .....	...	...	...	...	...	...	782	3	16	...	...	...
Automotive Engineering Laboratory .....	...	...	...	...	...	...	...	...	...	783	3	16
Hydraulic Power Laboratory .....	...	...	...	...	...	...	...	...	...	785	3	5
Research Work .....	...	...	...	801	5-10	1	...	...	...	...	...	...
Research Work .....	...	...	...	...	...	...	802	5-10	1	...	...	...



Research Work .....	...	...	...	815	3-5	1	...	...	...	803	5-10	2
Steam Power Plants, Economics and Design..	...	...	...	...	...	...	...	...	...	...	...	...
Steam Power Plants, Economics and Design..	...	...	...	...	...	...	816	3-5	1	...	...	...
<b>MECHANICS</b>												
Statics .....	...	...	...	601	5	161	601	5	68	601	5	71
Strength of Materials .....	...	...	...	602	5	74	602	5	131	602	5	57
Strength of Materials, Kinetics and Hydraulics .....	...	...	...	603	5	24	603	5	65	603	5	99
Strength of Materials .....	...	...	...	...	...	...	604	3	6	...	...	...
Advanced Theoretical Mechanics .....	...	...	...	801	3	3	...	...	...	...	...	...
Advanced Theoretical Mechanics .....	...	...	...	...	...	...	802	3	5	...	...	...
Advanced Theoretical Mechanics .....	...	...	...	...	...	...	...	...	...	803	3	5
<b>MEDICINE</b>												
Medical Law .....	...	...	...	601	2	81	601	2	68	601	2	80
Ward Clinic .....	...	...	...	602	2	78	602	2	85	...	...	...
Dispensary .....	...	...	...	602	3	83	603	3	85	...	...	...
General Medicine .....	...	...	...	602	5	83	...	...	...	602	5	80
General Medicine .....	...	...	...	...	...	...	603	5	72	603	5	80
General and Clinical Medicine .....	...	...	...	...	...	...	...	...	...	604	5	72
Nervous Diseases .....	...	...	...	605	3	75	...	...	...	...	...	...
Dermatology .....	...	...	...	...	...	...	...	...	...	606	3	71
Genito-Urinary Diseases .....	...	...	...	...	...	...	607	3	72	...	...	...
General and Clinical Medicine .....	...	...	...	608	2	85	...	...	...	...	...	...
General and Clinical Medicine .....	...	...	...	...	...	...	609	2	85	...	...	...
General and Clinical Medicine .....	...	...	...	...	...	...	...	...	...	610	2	80
Psychiatry .....	...	...	...	611	1	83	...	...	...	...	...	...
Therapeutics .....	...	...	...	...	...	...	...	...	...	614	2	80
Pediatrics, Didactic and Clinical .....	...	...	...	615	2	83	...	...	...	...	...	...
Pediatrics, Clinical Conference .....	...	...	...	...	...	...	616	2	83	...	...	...
Pediatrics, Clinical Conference .....	...	...	...	...	...	...	...	...	...	617	2	80
Tuberculosis .....	...	...	...	...	...	...	619	2	59	...	...	...
Syphilology .....	...	...	...	...	...	...	...	...	...	623	2	51
Elementary Clinical Medicine .....	...	...	...	...	...	...	...	...	...	625	2	83
Localization in the Nervous System.....	...	...	...	...	...	...	...	...	...	631	2	20
<b>METALLURGY</b>												
Elementary Fuel Testing .....	...	...	...	401	2	10	...	...	...	...	...	...
Metallurgical Analysis .....	...	...	...	...	...	...	405	5	6	...	...	...
Metal Analysis .....	...	...	...	...	...	...	...	...	...	406	5	9
Fire Assaying .....	...	...	...	...	...	...	410	3	7	410	3	5
Metallurgical Analysis .....	...	...	...	451	3	45	...	...	...	...	...	...
Ceramic Analysis .....	...	...	...	...	...	...	452	4	33	...	...	...
Ceramic Analysis .....	...	...	...	...	...	...	...	...	...	453	4	29
Metallurgical Analysis .....	...	...	...	...	...	...	...	...	...	454	4	2
Iron and Steel Metallurgy .....	...	...	...	...	...	...	605	3	9	...	...	...
Principles of Metallurgy .....	...	...	...	...	...	...	606	2	10	...	...	...
Non-Ferrous Metallurgy .....	...	...	...	...	...	...	...	...	...	610	5	9
Principles of Ore Dressing .....	...	...	...	620	5	14	...	...	...	...	...	...
Inspection Trip .....	...	...	...	...	...	...	...	...	...	645	...	10
Pyrometry .....	...	...	...	650	2	35	...	...	...	...	...	...
Fuels .....	...	...	...	651	3	39	651	3	41	...	...	...

## THE WORK OF INSTRUCTORS—1927-1928—Continued

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THE OHIO STATE UNIVERSITY

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Gas Testing and Calorimetry .....	...	...	...	652	1	28	...	...	...	...	...	...
General Metallurgy .....	...	...	...	701	4	6	...	...	...	665	5	18
Advanced Metallography .....	...	...	...	...	...	...	702	3	5	...	...	...
Heat Treatment and Special Steels .....	...	...	...	...	...	...	705	4	8	...	...	...
Metallurgical Construction .....	...	...	...	...	...	...	...	...	...	706	4	8
Metallurgical Construction .....	...	...	...	710	3	11	710	3	11	...	...	...
Metallurgical Investigations .....	...	...	...	...	...	...	...	...	...	711	3-5	12
Metallurgical Investigations .....	...	...	...	720	3	5	...	...	...	...	...	...
Ore Dressing .....	...	...	...	721	3	2	...	...	...	...	...	...
Coal Preparation .....	...	...	...	725	5-6	1	...	...	...	725	5-6	8
Thesis .....	...	...	...	...	...	...	...	...	...	...	...	...
MILITARY SCIENCE												
First Year Basic Course (Infantry) .....	...	...	...	401	1-	1232	...	...	...	...	...	...
First Year Basic Course (Infantry) .....	...	...	...	...	...	...	402	1	1057	...	...	...
First Year Basic Course (Infantry) .....	...	...	...	...	...	...	...	...	...	403	1	892
Second Year Basic Course (Infantry) .....	...	...	...	404	1	854	...	...	...	406	1	630
Second Year Basic Course (Infantry) .....	...	...	...	...	...	...	405	1	752	...	...	...
Second Year Basic Course (Infantry) .....	...	...	...	...	...	...	...	...	...	406	1	630
First Year Advanced Course (Infantry) .....	...	...	...	507	3	62	...	...	...	...	...	...
First Year Advanced Course (Infantry) .....	...	...	...	...	...	...	508	3	58	...	...	...
First Year Advanced Course (Infantry) .....	...	...	...	...	...	...	...	...	...	509	3	59
Second Year Advanced Course (Infantry) .....	...	...	...	510	3	47	...	...	...	...	...	...
Second Year Advanced Course (Infantry) .....	...	...	...	...	...	...	511	3	42	...	...	...
Second Year Advanced Course (Infantry) .....	...	...	...	...	...	...	...	...	...	512	3	34
First Year Basic Course (Field Artillery) .....	...	...	...	421	1	669	...	...	...	...	...	...
First Year Basic Course (Field Artillery) .....	...	...	...	...	...	...	422	1	637	...	...	...
First Year Basic Course (Field Artillery) .....	...	...	...	...	...	...	...	...	...	423	1	581
Second Year Basic Course (Field Artillery) .....	...	...	...	424	1	427	...	...	...	...	...	...
Second Year Basic Course (Field Artillery) .....	...	...	...	...	...	...	425	1	423	...	...	...
Second Year Basic Course (Field Artillery) .....	...	...	...	...	...	...	...	...	...	426	1	375
First Year Advanced Course (Field Artillery) .....	...	...	...	527	3	29	...	...	...	...	...	...
First Year Advanced Course (Field Artillery) .....	...	...	...	...	...	...	528	3	32	...	...	...
First Year Advanced Course (Field Artillery) .....	...	...	...	...	...	...	...	...	...	529	3	33
Second Year Advanced Course (Field Artillery) .....	...	...	...	...	...	...	...	...	...	...	...	...
Second Year Advanced Course (Field Artillery) .....	...	...	...	530	3	41	...	...	...	...	...	...
Second Year Advanced Course (Field Artillery) .....	...	...	...	...	...	...	531	3	48	...	...	...



Second Year Advanced Course (Field Artillery)	...	...	...	...	...	...	...	...	532	3	42
Second Year Basic Course (Signal Corps)	...	...	444	1	28	...	...	...	...	...	...
Second Year Basic Course (Signal Corps)	...	...	...	...	...	445	1	34	...	...	...
Second Year Basic Course (Signal Corps)	...	...	...	...	...	...	...	...	446	1	32
First Year Advanced Course (Signal Corps)	...	...	547	3	11	...	...	...	...	...	...
Second Year Advanced Course (Signal Corps)	...	...	...	...	...	551	3	19	...	...	...
Second Year Advanced Course (Signal Corps)	...	...	...	...	...	...	...	...	552	3	10
First Year Basic Course (Medical Corps)	...	...	461	1	31	...	...	...	...	...	...
First Year Basic Course (Medical Corps)	...	...	...	...	...	462	1	31	...	...	...
First Year Basic Course (Medical Corps)	...	...	...	...	...	...	...	...	463	1	28
Second Year Basic Course (Medical Corps)	...	...	464	1	31	...	...	...	...	...	...
Second Year Basic Course (Medical Corps)	...	...	...	...	...	465	1	27	465	1	1
Second Year Basic Course (Medical Corps)	...	...	...	...	...	...	...	...	466	1	29
First Year Advanced Course (Medical Corps)	...	...	567	1	21	...	...	...	...	...	...
First Year Advanced Course (Medical Corps)	...	...	...	...	...	568	1	22	...	...	...
First Year Advanced Course (Medical Corps)	...	...	...	...	...	...	...	...	569	1	22
Second Year Advanced Course (Med. Corps)	...	...	570	1	16	...	...	...	...	...	...
Second Year Advanced Course (Med. Corps)	...	...	...	...	...	571	1	15	...	...	...
Second Year Advanced Course (Med. Corps)	...	...	...	...	...	...	...	...	572	1	17
First Year Basic Course (Dental Corps)	...	...	451	1	97	...	...	...	...	...	...
First Year Basic Course (Dental Corps)	...	...	...	...	...	452	1	82	...	...	...
First Year Basic Course (Dental Corps)	...	...	...	...	...	...	...	...	453	1	79
Second Year Basic Course (Dental Corps)	...	...	454	1	43	...	...	...	...	...	...
Second Year Basic Course (Dental Corps)	...	...	...	...	...	455	1	51	...	...	...
Second Year Basic Course (Dental Corps)	...	...	...	...	...	...	...	...	456	1	42
First Year Advanced Course (Dental Corps)	...	...	557	1	58	...	...	...	...	...	...
First Year Advanced Course (Dental Corps)	...	...	...	...	...	558	1	40	...	...	...
First Year Advanced Course (Dental Corps)	...	...	...	...	...	...	...	...	559	1	45
Second Year Advanced Course (Dental Corps)	...	...	560	1	31	...	...	...	...	...	...
Second Year Advanced Course (Dental Corps)	...	...	...	...	...	561	1	28	...	...	...
Second Year Advanced Course (Dental Corps)	...	...	...	...	...	...	...	...	562	1	28
First Year Basic Course (Vet. Med.)	...	...	471	1	45	...	...	...	...	...	...
First Year Basic Course (Vet. Med.)	...	...	...	...	...	472	1	48	...	...	...
First Year Basic Course (Vet. Med.)	...	...	...	...	...	...	...	...	473	1	46
Second Year Basic Course (Vet. Med.)	...	...	474	1	20	...	...	...	475	1	20
Second Year Basic Course (Vet. Med.)	...	...	...	...	...	475	1	23	...	...	...
First Year Advanced Course (Vet. Med.)	...	...	577	1	12	...	...	...	...	...	...
First Year Advanced Course (Vet. Med.)	...	...	...	...	...	578	1	11	...	...	...
First Year Advanced Course (Vet. Med.)	...	...	...	...	...	...	...	...	579	1	9
Second Year Advanced Course (Vet. Med.)	...	...	580	1	11	...	...	...	...	...	...
Second Year Advanced Course (Vet. Med.)	...	...	...	...	...	581	1	10	...	...	...
Second Year Advanced Course (Vet. Med.)	...	...	...	...	...	...	...	...	582	1	10

#### MINE ENGINEERING

Mine Surveying	...	...	401	5	5	...	...	...	...	...	...
Mapping	...	...	...	...	...	402	2	3	...	...	...
Mine Engineering	...	...	...	...	...	...	...	...	405	2	3
Surveying	...	...	550	5	6	...	...	...	501	5	21
Prospecting and Preliminary Operations	...	...	...	...	...	601	5	7	...	...	...
Developments and Methods of Mining	...	...	...	...	...	...	...	...	701	3	6
Mine Operations	...	...	702	5	5	...	...	...	...	...	...
Mine Examinations and Reports	...	...	...	...	...	703	5	1	...	...	...

	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
COURSE SUBJECT	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Mine Design .....	711	5	1	711	5	2	712	5	1	712	5	1
Petroleum Engineering .....	721	3	8	722	3	6	723	3	5	741	5	2
Petroleum Engineering .....	721	3	8	722	3	6	723	3	5	741	5	2
Petroleum Engineering .....	721	3	8	722	3	6	723	3	5	741	5	2
Petroleum Engineering .....	721	3	8	722	3	6	723	3	5	741	5	2
Thesis .....	721	3	8	722	3	6	723	3	5	741	5	2
Mine Investigations .....	721	3	8	722	3	6	723	3	5	741	5	2
<b>MINERALOGY</b>												
Crystallography and Descriptive Mineralogy..	401	3	15	401	3	15	401	3	8	401	3	8
Descriptive Mineralogy .....	402	3	48	402	3	48	402	3	12	402	3	12
Blowpipe Analysis .....	404	4	9	404	4	9	404	4	4	404	4	4
Advanced Crystallography .....	605	3	15	605	3	15	605	3	37	605	3	37
Thermochemical Mineralogy .....	605	3	15	605	3	15	605	3	37	605	3	37
Advanced Thermochemical Mineralogy.....	606	3	7	606	3	7	606	3	24	606	3	24
Elementary Microscopic Petrography.....	621	5	13	621	5	13	621	5	4	621	5	4
Microscopic Mineralogy .....	631	5	8	631	5	8	631	5	4	631	5	4
Mineralogical Investigations .....	801	5	3	801	5	3	801	5	2	801	5	2
Research .....	802	6	2	802	6	2	802	6	2	802	6	2
Dissertations .....	803	5	2	803	5	2	803	5	2	803	5	2
Research .....	803	5	2	803	5	2	803	5	2	803	5	2
<b>MUSIC</b>												
Appreciation of Music .....	301	2	41	301	2	41	301	2	41	301	2	41
Appreciation of Music .....	302	2	15	302	2	15	302	2	15	302	2	15
Choral Music in 16th and 17th Centuries....	305	2	10	305	2	10	305	2	10	305	2	10
Choral Music in 16th and 17th Centuries....	306	2	6	306	2	6	306	2	6	306	2	6
General Methods .....	310	2	9	310	2	9	310	2	9	310	2	9
Primary Methods and Practice Teaching....	315	2	14	315	2	14	315	2	14	315	2	14
Intermediate Methods and Practice Teaching.	320	2	15	320	2	15	320	2	15	320	2	15
High School Materials .....	327	4	15	327	4	15	327	4	15	327	4	15
Rural School Music and County Supervising.	330	2	6	330	2	6	330	2	6	330	2	6
Teaching of Musical Theory .....	350	2	4	350	2	4	350	2	4	350	2	4
Short Course in Harmony I .....	351	2	10	351	2	10	351	2	10	351	2	10
Short Course in Harmony II .....	352	2	6	352	2	6	352	2	6	352	2	6
Instruments of the Orchestra .....	360	2	17	360	2	17	360	2	17	360	2	17
Orchestral Materials and Scoring.....	361	2	8	361	2	8	361	2	8	361	2	8
Organization and Drills of Band and Or-	362	2	3	362	2	3	362	2	3	362	2	3
chestras .....	365	2	16	365	2	16	365	2	16	365	2	16
Conducting .....	365	2	16	365	2	16	365	2	16	365	2	16



Beginning Sight Singing.....	370	1	14	...	...	...	...	...	...	...	...	...	...
Intermediate Sight Singing.....	371	1	4	...	...	...	...	...	...	...	...	...	...
Assembly.....	390	1	37	...	...	...	...	...	...	...	...	...	...
Assembly.....	391	1	8	...	...	...	...	...	...	...	...	...	...
Assembly.....	392	1	6	...	...	...	...	...	...	...	...	...	...
Assembly.....	393	1	3	...	...	...	...	...	...	...	...	...	...
History and Appreciation of Music.....	...	...	...	...	...	430	4	35	...	...	...	...	...
History and Appreciation of Music.....	...	...	...	...	...	...	...	...	431	4	26	...	...
School Music Methods.....	...	...	442	5	18	...	...	...	...	...	...	...	...
School Music II.....	...	...	...	...	...	...	...	...	443	5	15	...	...
Conducting.....	...	...	...	...	...	459	2	4	...	...	...	...	...
Harmony.....	...	...	460-1-2	3	29	460-1-2	3	27	460-1-2	3	23	...	...
Harmonic Analysis.....	...	...	...	...	...	465	3	11	...	...	...	...	...
Form.....	...	...	...	...	...	...	...	...	468	...	5	...	...
Elementary Sight Singing and Ear Training.....	...	...	476-8-9	2	48	476-8-9	2	21	476-8-9	2	36	...	...
Sight Singing and Dictation.....	...	...	482-3	3	11	482-3	3	10	...	...	...	...	...
Applied Music.....	...	...	501-2-3	2	22	501-2-3	2	27	501-2-3	2	26	...	...
Applied Music.....	...	...	504-5-6	1	18	504-5-6	1	25	504-5-6	1	31	...	...
Applied Music.....	...	...	507-8-9	1	4	507-8-9	1	8	507-8-9	1	6	...	...
Applied Music.....	...	...	510-11-12	1	6	510-11-12	1	4	510-11-12	1	13	...	...
The Romantacists.....	...	...	601	4	13	...	...	...	...	...	...	...	...
Modern Music.....	...	...	...	...	...	603	4	15	...	...	...	...	...
Music in the Junior High School.....	...	...	610	4	19	...	...	...	...	...	...	...	...
High School Music.....	...	...	...	...	...	...	...	...	611	4	8	...	...
University Chorus.....	...	...	A	1	39	A	1	34	A	1	30	...	...
Instrumentation.....	...	...	630-2-5	3	6	630-2-5	3	5	630-2-5	3	5	...	...
OBSTETRICS													
Normal Obstetrics.....	...	...	...	...	...	601	3	73	...	...	...	...	...
Abnormal Obstetrics.....	...	...	...	...	...	...	...	...	602	3	72	...	...
Pathological Obstetrics.....	...	...	603	3	82	...	...	...	...	...	...	...	...
Pathological Obstetrics.....	...	...	...	...	...	604	3	84	...	...	...	...	...
Clinical Obstetrics.....	...	...	605	2	82	605	2	84	605	2	80	...	...
OPHTHALMOLOGY AND OTO-LARYNGOLOGY													
Oto-Laryngology.....	...	...	...	...	...	602	3	73	602	3	83	...	...
Ophthalmology.....	...	...	601	3	74	...	...	...	...	...	...	...	...
PATHOLOGY													
Pathology.....	...	...	450	3	79	...	...	...	...	...	...	...	...
Pathology.....	...	...	...	...	...	451	3	79	...	...	...	...	...
Nurses Training School.....	...	...	...	...	...	...	...	...	452	...	69	...	...
General Pathology.....	...	...	...	...	...	601	3	72	...	...	...	...	...
Special Pathology.....	...	...	...	...	...	...	...	...	602	5	62	...	...
Clinical Pathology.....	...	...	603	3	71	...	...	...	...	...	...	...	...
Clinical Pathology.....	...	...	...	...	...	604	3	71	...	...	...	...	...
Surgical Pathology.....	...	...	...	...	...	...	...	...	805	2	28	...	...
Medical Pathology.....	...	...	...	...	...	...	...	...	606	2	52	...	...
Post Mortem Demonstration.....	...	...	...	...	...	...	...	...	607	1	80	...	...
Advanced Pathology.....	...	...	608	3-5	12	...	...	...	...	...	...	...	...
Advanced Pathology.....	...	...	...	...	...	...	...	...	...	...	...	...	...
Advanced Special Pathology.....	...	...	611	3-5	11	...	...	...	610	3-5	10	...	...

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Advanced Special Pathology .....	...	...	...	616	3	6	...	...	...	613	3-5	12
Advanced Clinical Pathology .....	...	...	...	...	...	...	...	...	...	...	...	...
Advanced Clinical Pathology .....	...	...	...	...	...	...	617	3	8	...	...	...
Advanced Clinical Pathology .....	...	...	...	...	...	...	...	...	...	618	3	12
Pathology of the Eye .....	...	...	...	...	...	...	...	...	...	622	2	10
PHARMACY												
Pharmacy Survey .....	...	...	...	400	5	70	...	...	...	...	...	...
Pharmacy .....	...	...	...	401	5	56	401	5	8	...	...	...
Pharmacy .....	...	...	...	...	...	...	402	5	49	402	5	9
Pharmacy .....	...	...	...	403	5	13	...	...	...	403	5	38
Pharmacy .....	...	...	...	404	5	23	404	5	13	...	...	...
Pharmacy .....	...	...	...	...	...	...	405	5	29	405	5	8
Pharmacy .....	...	...	...	406	5	12	...	...	...	406	5	24
Materia Medica .....	...	...	...	407	3	16	...	...	...	...	...	...
Materia Medica .....	...	...	...	...	...	...	408	3	16	...	...	...
Materia Medica .....	...	...	...	409	3	6	...	...	...	409	3	20
Pharmaceutical Analysis .....	...	...	...	410	5	28	...	...	...	...	...	...
Pharmaceutical Analysis .....	...	...	...	...	...	...	411	5	28	...	...	...
Pharmaceutical Analysis .....	...	...	...	...	...	...	...	...	...	412	5	25
Pharmacognasy: Microscopical .....	...	...	...	416	3	18	...	...	...	...	...	...
Pharmacognasy: Microscopical .....	...	...	...	...	...	...	417	3	17	...	...	...
Pharmacognasy: Microscopical .....	...	...	...	...	...	...	...	...	...	418	3	32
Toxicology .....	...	...	...	419	5	11	...	...	...	419	5	10
Pharmacognasy: Commercial .....	...	...	...	422	5	12	...	...	...	422	5	28
Pharmacy: Commercial .....	...	...	...	...	...	...	423	2	30	...	...	...
Pharmacy: Commercial .....	...	...	...	...	...	...	...	...	...	424	2	34
Pharmaceutical Arithmetic .....	...	...	...	425	1	37	425	1	31	...	...	...
Pharmaceutical Arithmetic .....	...	...	...	...	...	...	426	1	58	426	1	28
Pharmacy: Applied .....	...	...	...	...	...	...	427	3	4	427	3	17
Current Literature .....	...	...	...	428	1	5	...	...	...	...	...	...
Pharmaceutical Arithmetic .....	...	...	...	...	...	...	...	...	...	429	3	54
Pharmaceutical Latin .....	...	...	...	430	5	24	...	...	...	430	5	38
Thesis .....	...	...	...	431	3	24	431	3	24	...	...	...
PHILOSOPHY												
Introduction to Philosophy .....	301	2	19	...	...	...	...	...	...	...	...	...
Introduction to Philosophy .....	302	1	1	...	...	...	...	...	...	...	...	...
Elementary Ethics .....	305	2	9	...	...	...	...	...	...	...	...	...



Elementary Ethics .....	...	...	...	...	...	...	...	...	...	...	...	...
Ancient and Medieval Philosophy.....	351	2	1	...	...	...	...	...	...	...	...	...
Introduction to Philosophy .....	401	5	52	401	5	87	401	5	71	401	5	95
Elementary Logic .....	402	5	21	402	5	37	402	5	51	402	5-	149
Elementary Ethics .....	405	5	27	405	5	50	405	5	45	405	5	83
Origin and Development of Religious Ideas...	...	...	...	...	...	...	408	5	53	...	...	...
Esthetics .....	...	...	...	415	5	24	...	...	...	415	5	41
Ancient and Medieval Philosophy.....	601	5	11	601	5	16	...	...	...	...	...	...
Modern Philosophy .....	...	...	...	...	...	...	602	5	22	...	...	...
Contemporary Philosophy .....	603	5	5	...	...	...	...	...	...	603	5	13
Origin of Our Moral Ideas .....	...	...	...	...	...	...	605	5	11	...	...	...
Philosophy and Poetry .....	...	...	...	608	3	14	...	...	...	...	...	...
Origins of Christian Thought .....	610	3	9	...	...	...	...	...	...	...	...	...
Aristotle and Platinus .....	...	...	...	...	...	...	624	3	8	...	...	...
*Representative Post-Kantian Philosophers...	...	...	...	...	...	...	626	3	2	...	...	...
Nineteenth Century Empiricists .....	...	...	...	...	...	...	...	...	...	627	3	6
Philosophy of Science .....	...	...	...	...	...	...	...	...	...	652	3	5
Philosophy of Religion .....	...	...	...	...	...	...	...	...	...	653	3	31
Principles of Individual and Social Ethics....	...	...	...	...	...	...	656	5	13	...	...	...
Minor Problems .....	660	2-5	5	660	2-5	2	...	...	...	660	2-5	1
Metaphysics of Knowledge and Nature.....	...	...	...	661	5	8	...	...	...	...	...	...
*Representative Pre-Kantian Philosophers....	625	3	5	625	3	3	...	...	...	...	...	...
Seminary in Systematic Philosophy .....	...	...	...	801	3	3	...	...	...	...	...	...
Seminary in Social and Political Philosophy..	...	...	...	...	...	...	806	...	14	...	...	...
Seminary in Social and Political Philosophy..	...	...	...	...	...	...	816	3	1	...	...	...
...	...	...	...	...	...	...	...	...	...	817	3	1
PHYSICAL EDUCATION—MEN												
Hygiene .....	...	...	...	400	1	720	400	1	636	400	1	683
Physical Education .....	...	...	...	401	1	2131	...	...	...	...	...	...
Physical Education .....	...	...	...	...	...	...	402	1	1908	402	1	1627
Theory and Practice of Physical Education..	...	...	...	441	2	24	...	...	...	...	...	...
Theory and Practice of Physical Education..	...	...	...	...	...	...	442	2	18	...	...	...
Track .....	...	...	...	...	...	...	...	...	...	443	2	31
Theory and Practice of Physical Education..	...	...	...	445	3	12	...	...	...	...	...	...
Theory and Practice of Physical Education..	...	...	...	...	...	...	446	3	16	...	...	...
Theory and Practice of Physical Education..	...	...	...	...	...	...	...	...	...	447	3	17
Gymnastics .....	...	...	...	...	...	...	450	3	7	...	...	...
Theory and Practice of Physical Education..	...	...	...	...	...	...	...	...	...	451	3	6
Basketball .....	...	...	...	449	3	13	...	...	...	...	...	...
First Aid .....	473	1	57	...	...	...	...	...	...	...	...	...
Physical Education in Secondary Schools.....	481	1	12	...	...	...	...	...	...	...	...	...
Therapeutic Gymnastics and Physical Exami-	...	...	...	...	...	...	...	...	...	...	...	...
nations .....	...	...	...	...	...	...	...	...	...	493	3	8
Principles of Coaching Football.....	501	2	17	...	...	...	...	...	...	...	...	...
Principles of Coaching Basketball.....	504	1	43	...	...	...	...	...	...	...	...	...
Sports .....	508	1	16	...	...	...	...	...	...	...	...	...
Principles of Coaching Baseball.....	512	1	12	...	...	...	...	...	...	...	...	...
Physical Education—for men disqualified for	...	...	...	...	...	...	...	...	...	...	...	...
Military Science .....	...	...	...	...	...	...	...	...	...	527	1	31
Physical Education—for men disqualified for	...	...	...	...	...	...	...	...	...	...	...	...
Military Science .....	...	...	...	...	...	...	529	1	45	...	...	...

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THE OHIO STATE UNIVERSITY

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Physical Education—for men disqualified for Military Science .....	...	...	...	...	...	...	...	...	...	530	1	5
Organization and Administration .....	...	...	...	...	...	...	682	5	6	...	...	...
History and Principles of Physical Education .....	...	...	...	...	...	...	683	5	9	...	...	...
Prevention and Care of Injuries, including Training of Athletes .....	685	3	18	685	3	9	...	...	...	...	...	...
Kinesiology .....	...	...	...	691	3	10	...	...	...	...	...	...
Hygiene and School Health Problems .....	...	...	...	...	...	...	692	3	5	...	...	...
PHYSICAL EDUCATION—WOMEN												
Hygiene .....	...	...	...	400	1	336	400	1	320	400	1	215
Physical Education .....	...	...	...	421	1	900	...	...	...	...	...	...
Physical Education .....	...	...	...	...	...	...	422	1	761	...	...	...
Physical Education .....	...	...	...	...	...	...	...	...	...	423	1	712
Physical Education .....	...	...	...	425	1	743	...	...	...	...	...	...
Physical Education .....	...	...	...	...	...	...	426	1	635	...	...	...
Physical Education .....	...	...	...	...	...	...	...	...	...	427	1	608
Elementary Folk Dancing .....	461	2	14	...	...	...	...	...	...	...	...	...
Advanced Folk Dancing .....	462	2	12	...	...	...	...	...	...	...	...	...
Elementary Interpretive Dancing .....	464	1	5	...	...	...	...	...	...	...	...	...
Organization and Administration of Physical Education for Women .....	480	1	7	...	...	...	...	...	...	...	...	...
Elementary and Intermediate Swimming .....	495	1	170	...	...	...	...	...	...	...	...	...
Advanced Swimming .....	496	1	43	...	...	...	...	...	...	...	...	...
Theory and Practice of Physical Education .....	...	...	...	541	3	50	...	...	...	...	...	...
Theory and Practice of Physical Education .....	...	...	...	...	...	...	542	3	41	...	...	...
Theory and Practice of Physical Education .....	...	...	...	...	...	...	...	...	...	543	3	39
Theory and Practice of Physical Education .....	...	...	...	545	3	24	...	...	...	...	...	...
Theory and Practice of Physical Education .....	...	...	...	...	...	...	546	3	22	...	...	...
Theory and Practice of Physical Education .....	...	...	...	...	...	...	...	...	...	547	3	24
Theory and Practice of Physical Education .....	...	...	...	549	3	11	...	...	...	...	...	...
Theory and Practice of Physical Education .....	...	...	...	...	...	...	550	3	10	...	...	...
Theory and Practice of Physical Education .....	...	...	...	...	...	...	...	...	...	551	3	11
Therapeutic Gymnastics, Advanced .....	...	...	...	671	3	16	...	...	...	...	...	...
Organization and Administration of Physical Education .....	...	...	...	...	...	...	682	5	19	...	...	...
History of Principles of Physical Education .....	...	...	...	...	...	...	683	5	20	...	...	...
Kinesiology .....	...	...	...	691	3	23	...	...	...	...	...	...



PHYSICS												
General Physics: Mechanics and Heat.....	...	...	...	401	5	61	...	...	...	401	5	27
General Physics: Sound, Light, Electricity....	...	...	...	...	...	...	402	5	18	...	...	...
General Physics: Mechanics and Heat.....	403	5	10	403	5	58	...	...	...	...	...	...
General Physics: Sound, Light, Electricity....	...	...	...	...	...	...	404	5	42	...	...	...
Elementary Electron Physics .....	409	5	6	...	...	...	...	...	...	...	...	...
General Physics: Mechanics .....	...	...	...	411	5	218	411	5	46	...	...	...
General Physics: Heat, Sound and Light.....	412	5	9	...	...	...	412	5	189	...	...	...
General Physics: Electricity .....	...	...	...	...	...	...	...	...	...	413	5	178
Physics for Agricultural Students:												
Mechanics, Heat and Electricity.....	...	...	...	421	5	24	421	5	45	421	5	37
General Physics for Engineers: Mechanics and Heat to Conduction .....	431	5	8	431	5	260	431	5	150	431	5	23
General Physics for Engineers: Heat Com- pleted, Sound and Light .....	432	5	14	...	...	...	432	5	231	...	...	...
General Physics for Engineers: Electricity and Magnetism .....	...	...	...	433	5	27	...	...	...	...	...	...
Electricity and Magnetism .....	...	...	...	435	3	91	...	...	...	...	...	...
Electricity and Magnetism .....	...	...	...	...	...	...	436	5	67	...	...	...
Electrical Measurements and Photometry....	...	...	...	...	...	...	...	...	...	437	5	63
Advanced Laboratory: Mechanics and Heat..	602	3	11	602	3	6	...	...	...	602	3	4
Advanced Laboratory: Radiation .....	...	...	...	...	...	...	603	3	12	...	...	...
Advanced Laboratory: Electrical Measure- ments .....	604	3	9	604	3	11	...	...	...	604	3	13
Advanced Laboratory: Ionization and Radio- activity .....	...	...	...	...	...	...	605	3	14	...	...	...
Advanced Light .....	607	4	14	607	4	16	...	...	...	...	...	...
Advanced Electricity .....	...	...	...	...	...	...	608	4	15	...	...	...
Molecular Physics and Heat .....	...	...	...	609	4	14	...	...	...	...	...	...
Conduction of Electricity Through Gases and Radioactivity .....	610	4	12	...	...	...	610	4	12	...	...	...
Modern Spectroscopy .....	...	...	...	...	...	...	...	...	...	611	4	7
Periodic and Transient Electric Currents....	...	...	...	...	...	...	...	...	...	612	4	21
Minor Investigations .....	...	...	...	630	3	3	...	...	...	...	...	...
Minor Investigation .....	...	...	...	...	...	...	631	3	4	...	...	...
Minor Investigation .....	...	...	...	...	...	...	...	...	...	632	3	5
Electrical Measurements .....	...	...	...	738	4	53	...	...	...	...	...	...
Thermo-dynamics .....	...	...	...	803	3	7	...	...	...	...	...	...
Thermo-dynamics .....	...	...	...	...	...	...	804	3	7	...	...	...
Electronic Theory and Atomic and Molecular Structure .....	...	...	...	...	...	...	814	3	6	...	...	...
Electronic Theory and Atomic and Molecular Structure .....	...	...	...	...	...	...	...	...	...	815	3	4
Research Laboratory .....	830	3	6	830	3	6	...	...	...	...	...	...
Research Laboratory .....	...	...	...	...	...	...	831	3	6	...	...	...
Research Laboratory .....	...	...	...	...	...	...	...	...	...	832	3	6
Seminary in Theoretical Physics .....	851	3	8	851	3	4	...	...	...	851	3	24
Seminary in Theoretical Physics .....	...	...	...	...	...	...	852	3	4	...	...	...
PHYSIOLOGY												
Elementary Physiology .....	...	...	...	...	...	...	402	5	57	...	...	...
Elementary Physiology .....	...	...	...	403	5	197	403	5	51	...	...	...
Elementary Physiology .....	...	...	...	...	...	...	404	5	171	404	5	50

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
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General Physiology .....	...	...	...	...	...	...	...	...	...	406	5	14
Comparative Physiology .....	...	...	...	413	4	26	...	...	...	...	...	...
Comparative Physiology .....	...	...	...	...	...	...	414	5	21	...	...	...
Principles of Physiology .....	...	...	...	...	...	...	...	...	...	419	5	127
Physiology of the Eye .....	...	...	...	...	...	...	...	...	...	440	3	...
Dental Physiology .....	...	...	...	...	...	...	502	6	61	...	...	...
Dental Physiology .....	...	...	...	...	...	...	...	...	...	503	2	59
Advanced Physiology .....	...	...	...	601	5	5	...	...	...	...	...	...
Advanced Physiology .....	...	...	...	...	...	...	602	5	4	...	...	...
Advanced Physiology .....	...	...	...	604	6	64	...	...	...	...	...	...
Advanced Physiology .....	...	...	...	...	...	...	605	6	64	...	...	...
Medical Physiology .....	...	...	...	...	...	...	...	...	...	606	2	63
Physiological Laboratory .....	...	...	...	...	...	...	609	5	6	...	...	...
Physiological Laboratory .....	...	...	...	...	...	...	...	...	...	610	5	...
Physiological Laboratory .....	...	...	...	611	5	3	...	...	...	...	...	...
Physiological Laboratory .....	...	...	...	...	...	...	...	...	...	613	5	...
Research Physiology: Major .....	...	...	...	...	...	...	805	10-15	1	...	...	...
PHYSIOLOGICAL CHEMISTRY												
Physiological Chemistry .....	...	...	...	...	...	...	...	...	...	401	3	99
Physiological Chemistry .....	...	...	...	601	5	112	...	...	...	...	...	...
Physiological Chemistry .....	...	...	...	...	...	...	602	5	84	...	...	...
Quantitative Methods of Blood and Urine Analysis .....	...	...	...	603	3	7	...	...	...	...	...	...
Pharmacology .....	...	...	...	...	...	...	...	...	...	605	5	60
Materia Medica .....	...	...	...	...	...	...	...	...	...	606	5	60
Research in Physiological Chemistry .....	...	...	...	...	...	...	802	5-10	5	...	...	...
Research in Physiological Chemistry .....	...	...	...	...	...	...	...	...	...	803	5-10	...
POLITICAL SCIENCE												
American Federal Government .....	401	5	31	401	5	215	401	5	176	401	5	172
Government and Politics of Foreign Countries .....	402	5	51	402	5	51	402	5	118	402	5	98
American State and Local Government .....	...	...	...	...	5	51	403	5	53	403	5	132
State Legislative and Administrative Problems .....	...	...	...	...	...	...	...	...	...	604	3	25
Municipal Government .....	607	5	17	607	5	26	...	...	...	...	...	...
*Introduction to Jurisprudence .....	...	...	...	611	5	36	...	...	...	...	...	...
International Law .....	...	...	...	...	...	...	612	3	38	...	...	...
Contemporary International Politics .....	...	...	...	...	...	...	...	...	...	613	5	...



History of Political Theories	620	3	11	619	3	18	620	3	24	...	...	...
Recent Political Theories	801	3-5	6	801	3-5	5	801	3-5	2	...	...	...
Research in Political Science	...	...	...	...	...	...	802	3-5	1	...	...	...
Research in Political Science	...	...	...	...	...	...	...	...	...	803	3-5	5
Research in Political Science	...	...	...	...	...	...	608	3	16	...	...	...
*Municipal Functions	...	...	...	...	...	...	...	...	...	...	...	...
POULTRY HUSBANDRY												
Farm Poultry	...	...	...	401	3	52	401	3	62	401	3	42
Poultry Judging and Breeding	...	...	...	402	5	8	...	...	...	...	...	...
Incubation and Brooding	...	...	...	...	...	...	...	...	...	408	5	11
Marketing Poultry Products	...	...	...	603	3	6	...	...	...	...	...	...
Special Problems in Poultry Husbandry	...	...	...	701	3-15	2	701	3-15	2	701	3-15	4
Research in Poultry Husbandry	...	...	...	201	...	1	801	...	1	801	...	1
PRINCIPLES OF EDUCATION												
Principles of Education	301	3	152	...	...	...	...	...	...	...	...	...
Principles of Education	302	3	122	...	...	...	...	...	...	...	...	...
Principles and Methods of Elementary School Teaching	303	2	28	...	...	...	...	...	...	...	...	...
Teaching of Arithmetic and Science in the Elementary Schools	304	2	39	...	...	...	...	...	...	...	...	...
Teaching of the Social Studies in the Elementary Schools	306	2	30	...	...	...	...	...	...	...	...	...
Supervised Study	311	2	23	...	...	...	...	...	...	...	...	...
Teaching the Primary Grades	316	2	19	...	...	...	...	...	...	...	...	...
Kindergarten and Pre-School Teaching	318	2	9	...	...	...	...	...	...	...	...	...
The Teaching of Geography in the Elementary School	319	2	25	...	...	...	...	...	...	...	...	...
Teaching Nature Study and Science in the Elementary School	320	2	18	...	...	...	...	...	...	...	...	...
Principles and Methods of Junior High School Teaching	351	2	37	...	...	...	...	...	...	...	...	...
Principles and Methods of Junior High School Teaching	353	2	20	...	...	...	...	...	...	...	...	...
Supervision of Elementary School Teaching	360	2	32	...	...	...	...	...	...	...	...	...
Supervision of Elementary School Teaching	361	2	18	...	...	...	...	...	...	...	...	...
Rural Teacher Training	372	2	9	...	...	...	...	...	...	...	...	...
The Rural Elementary Curriculum	377	2	8	...	...	...	...	...	...	...	...	...
Methods and Problems of the Physical Sciences	383	2	16	...	...	...	...	...	...	...	...	...
The History Course of Study in Secondary Schools	384	3	18	...	...	...	...	...	...	...	...	...
The History Course of Study in Secondary Schools	385	3	15	...	...	...	...	...	...	...	...	...
Principles of Education	...	...	...	401	5	132	401	5	118	401	5	256
Contemporary Educational Practices	...	...	...	...	...	...	...	...	...	406	3	11
Methods of High School Teaching	410	3	19	410	3	97	...	...	...	410	3	142
Principles and Methods of Elementary School Teaching	...	...	...	...	...	...	...	...	...	430	5	4
Practice Teaching in Secondary Schools	...	...	...	440	5	110	...	...	...	...	...	...
Practice Teaching in Secondary Schools	...	...	...	...	...	...	...	...	...	441	10	5
Teaching of English Studies in the Elementary School	493	3	32	493	3	5	...	...	...	...	...	...

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Teaching of Social Studies in the Elementary Schools	601	3	30	601	3	46	605	4	17	494	3	16
Moral Ideals in Education	605	4	21	...	...	...	...	...	...	...	...	...
Cultural and Vocational Ideals in Education	...	...	...	...	...	...	606	5	33	...	...	...
Principles and Methods of Junior High School Teaching	610	3	60	610	3	13	...	...	...	...	...	...
Supervision of Teaching in Secondary Schools	612	3	7	...	...	...	...	...	...	612	3	7
Survey of Scientific Investigations in Elementary School Subjects	614	3	15	614	3	9	...	...	...	...	...	...
*Curriculum Constructions in Elementary Education	...	...	...	615	3	24	...	...	...	...	...	...
Social Aims in Education	...	...	...	...	...	...	616	4	5	...	...	...
Elementary Teacher Training	...	...	...	...	...	...	619	3	15	...	...	...
Social Aims in Education	620	3	83	620	3	67	...	...	...	...	...	...
Conceptions of Mind in Educational Theory	625	3	58	...	...	...	625	3	27	...	...	...
Problems of Curriculum Construction in Secondary Education	640	3	123	...	...	...	...	...	...	640	3	70
Modern Tendencies in Education	...	...	...	...	...	...	...	...	...	645	3	28
Social Education	...	...	...	651	2-4	3	...	...	...	...	...	...
Minor Problems	...	...	...	...	...	...	652	2-4	10	...	...	...
Minor Problems	...	...	...	...	...	...	...	...	...	653	2-4	31
Minor Problems	...	...	...	660	4	2	...	...	...	661	4	9
Methods and Problems of the Physical Sciences	...	...	...	...	...	...	663	5	53	...	...	...
Methods and Problems of the Physical Sciences	...	...	...	...	...	...	...	...	...	...	...	...
History Course of Study in Secondary Schools	665	3	11	...	...	...	...	...	...	...	...	...
Civic Education in Secondary Schools	668	3	21	...	...	...	...	...	...	...	...	...
The Project Method in Education	680	3	14	...	...	...	...	...	...	...	...	...
The Place of Schools in the Social Organization	682	3	26	...	...	...	...	...	...	...	...	...
Theories of the Educational Process	683	3	35	...	...	...	...	...	...	...	...	...
The Thinking Process in its Educational Bearing	700	3	24	700	3	30	...	...	...	...	...	...
The Teaching of American History	...	...	...	...	...	...	...	...	...	705	5	18
The Teaching of Biology	...	...	...	...	...	...	...	...	...	710	3	15
The Teaching of Chemistry	...	...	...	...	...	...	...	...	...	715	3	98
The Teaching of English	715	3	37	...	...	...	...	...	...	613	3	9
*Supervision of Elementary School Teaching	...	...	...	...	...	...	...	...	...	...	...	...
Teaching and Supervision of Journalism in Secondary Schools	716	3	9	...	...	...	...	...	...	...	...	...



Methods of Teaching Latin .....	731	3	20	730	3	7	...	...	...	...	...	...
The Teaching of Latin .....	731	3	20	730	3	7	...	...	...	...	...	...
The Teaching of Mathematics .....	735	3	23	735	3	18	...	...	...	...	...	...
The Teaching of French .....	740	3	10	...	...	...	740	3	9	...	...	...
The Teaching of Spanish .....	745	3	10	...	...	...	...	...	...	745	3	11
The Teaching of Mechanical Drawing .....	...	...	...	750	3	19	...	...	...	...	...	...
The Teaching of Mechanical Drawing .....	...	...	...	...	...	...	751	3	19	...	...	...
The Teaching of Physics .....	...	...	...	...	...	...	...	...	...	755	3	4
Spoken and Written English: Teachers Course	760	3	4	...	...	...	...	...	...	760	3	7
Special Problems in Educational Theory .....	801	3	11	...	...	...	...	...	...	...	...	...
Special Problems in Educational Theory .....	...	...	...	802	3	9	...	...	...	...	...	...
Special Problems in Educational Theory .....	...	...	...	...	...	...	803	3	19	...	...	...
Special Problems in Educational Theory .....	...	...	...	...	...	...	...	...	...	804	3	9
Special Problems in Secondary Education .....	...	...	...	811	3	12	...	...	...	...	...	...
Special Problems in Secondary Education .....	...	...	...	...	...	...	812	3	14	...	...	...
Special Education Problems .....	...	...	...	...	...	...	...	...	...	816	3	2
The Junior College Curriculum .....	819	3	4	...	...	...	...	...	...	...	...	...
Special Problems in Elementary Education .....	824	3	4	...	...	...	...	...	...	...	...	...
Special Problems in Elementary Education .....	...	...	...	825	3	7	...	...	...	...	...	...
Special Problems in Elementary Education .....	...	...	...	...	...	...	826	3	5	...	...	...
Special Problems in Elementary Education .....	...	...	...	...	...	...	...	...	...	827	3	17
The Teaching and Supervision of History in the Secondary Schools .....	835	2	11	...	...	...	...	...	...	...	...	...
The Teaching and Supervision of English in the Secondary Schools .....	843	3	33	...	...	...	...	...	...	...	...	...
Major Research .....	850	2-5	3	...	...	...	...	...	...	...	...	...
Major Research .....	...	...	...	851	3+	2	...	...	...	...	...	...
Major Research .....	...	...	...	...	...	...	...	...	...	853	3+	3
College Teaching .....	...	...	...	...	...	...	...	...	...	860	...	34
PSYCHOLOGY												
Elementary Psychology .....	401	5	188	401	5	744	401	5	449	401	5	703
Elementary Psychology .....	402	5	41	402	5	275	402	5	439	402	5	327
Intermediate General Psychology .....	...	...	...	...	...	...	...	...	...	406	3	34
Educational Psychology .....	407	5	163	407	5	235	407	5	200	407	5	200
Mental Hygiene .....	...	...	...	...	...	...	408	2	69	...	...	...
Introduction to Applied Psychology .....	...	...	...	...	...	...	...	...	...	409	3	27
Psychology of Effective Study .....	...	...	...	...	...	...	411	3	35	...	...	...
Experimental Psychology * Introduction .....	...	...	...	601	3	15	...	...	...	...	...	...
Experimental Psychology: Intermediate .....	...	...	...	...	...	...	602	3	10	...	...	...
Experimental Psychology: Advanced .....	...	...	...	...	...	...	...	...	...	603	3	9
Physiological Psychology .....	...	...	...	605	3	41	...	...	...	...	...	...
Advanced Physiological Psychology .....	...	...	...	...	...	...	606	3	31	...	...	...
Genetic Psychology and Child Study .....	607	5	37	...	...	...	...	...	...	607	5	135
Educational Statistics: Elementary .....	...	...	...	608	3	21	...	...	...	...	...	...
The Exceptional Child .....	609	3	47	...	...	...	...	...	...	609	3	57
Adolescence .....	610	3	58	...	...	...	...	...	...	610	3	84
The Mentally Deficient Child .....	611	3	36	611	3	87	...	...	...	...	...	...
Educational Statistics: Intermediate .....	...	...	...	...	...	...	612	3	7	...	...	...
Mental and Educational Tests .....	613	3	43	613	3	26	...	...	...	...	...	...
Laboratory in Tests and Educational Diagnosis .....	...	...	...	...	...	...	...	...	...	615	3	6
Binet Mental Tests .....	616	2	14	616	2	27	616	2	20	...	...	...
Elementary Psychological Clinic .....	...	...	...	...	...	...	617	2	22	617	2	4

THE WORK OF INSTRUCTORS—1927-1928—Continued

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Clinical Mental Tests .....	618	2	7	618	2	15	618	2	15	618	2	16
Advanced Psychological Clinic .....	...	...	...	619	2	3	619	2	7	619	2	11
Practicum in Mental Diagnosis .....	620	2	3	...	...	...	620	2	3	620	2	4
Social Psychology .....	621	3	45	...	...	...	621	3	82	...	...	...
Psychology of the Delinquent Child .....	...	...	...	...	...	...	...	...	...	622	3	59
Problems in Learning and Thinking .....	...	...	...	...	...	...	626	3	11	...	...	...
Advanced Educational Psychology .....	628	3	24	...	...	...	...	...	...	628	3	13
Advanced Psychology .....	629	5	20	...	...	...	629	5	5	...	...	...
Psychology of Feeling and Emotion .....	...	...	...	...	...	...	...	...	...	630	5	8
Theory of Intelligence .....	631	3	30	...	...	...	631	3	8	...	...	...
Criminal and Legal Psychology .....	...	...	...	...	...	...	634	5	67	...	...	...
Psychology of Advertising .....	...	...	...	635	3	49	...	...	...	635	3	50
Advertising Psychology .....	...	...	...	...	...	...	636	3	3	...	...	...
Industrial Psychology .....	...	...	...	637	3	25	...	...	...	...	...	...
Psychology and Personnel .....	...	...	...	...	...	...	639	3	32	...	...	...
Educational and Vocational Guidance .....	...	...	...	...	...	...	640	3	16	...	...	...
Abnormal Psychology .....	...	...	...	...	...	...	641	5	107	...	...	...
Psychopathology .....	...	...	...	...	...	...	...	...	...	642	3	32
Psychopathology .....	...	...	...	...	...	...	...	...	...	643	1	81
Human Motives and Incentives .....	...	...	...	...	...	...	...	...	...	644	3	13
History of Psychology .....	...	...	...	645	5	26	...	...	...	...	...	...
Principles of Human Behavior .....	...	...	...	...	...	...	...	...	...	646	3	33
Theoretical Psychology .....	647	3	20	...	...	...	...	...	...	...	...	...
Psychology of Language .....	648	3	14	...	...	...	...	...	...	...	...	...
Minor Problems .....	650	1+	7	650	1+	13	650	1+	22	650	1+	16
*Psychology of High School Subjects .....	652	3	10	652	3	30	...	...	...	...	...	...
Special Response Categories .....	...	...	...	653	3	7	...	...	...	...	...	...
Advanced Statistics .....	...	...	...	...	...	...	...	...	...	654	3	5
Comparative Psychology .....	...	...	...	...	...	...	655	3	3	...	...	...
Comparative Psychology .....	...	...	...	...	...	...	...	...	...	656	3	5
Comparative Psychology Laboratory .....	...	...	...	657	3	3	...	...	...	...	...	...
Adult Testing Laboratory .....	...	...	...	...	...	...	659	3	3	...	...	...
The Elementary and Pre-School Child .....	662	3	17	...	...	...	...	...	...	...	...	...
Proseminary .....	...	...	...	701	2	6	...	...	...	...	...	...
Major Research .....	801	1+	24	801	1+	38	801	1+	35	801	1+	38
Seminary in Psychology .....	803	2	7	803	2	10	803	2	5	803	2	13
Contemporary Psychology Literature .....	...	...	...	805	1	6	805	1	8	805	1	10
Psycho-Analysis .....	...	...	...	808	2	13	...	...	...	...	...	...
*Psychology of the Elementary School Subjects .....	651	3	14	...	...	...	...	...	...	...	...	...



PUBLIC HEALTH			
Child Health .....	...	...	403
Principles of Public Health Nursing .....	...	...	404
Survey of Nursing .....	...	...	406
Elementary Nursing .....	...	...	407
Public Health Problems .....	...	...	602
Industrial Hygiene .....	...	...	603
Preventive Medicine .....	...	...	604
Preventive Medicine .....	...	...	606
Tropical Diseases .....	...	...	607
Methods of Teaching Educational Nursing .....	...	...	653
Industrial Hygiene .....	...	...	803

## ROMANCE LANGUAGES

### FRENCH

French Literature of the 17th Century—1660-1700) .....	352	2	2	...	...	...	...	...	...	...	...
Elementary French .....	401	5	29	401	5	416	401	5	160	401	5
Elementary French .....	...	...	...	402	5	96	402	5	294	402	5
Intermediate French .....	403	5	20	403	5	243	403	5	90	403	5
Intermediate French .....	404	5	14	404	5	122	404	5	163	404	5
Elementary Course in Reading of French ...	405	5	12	405	5	11	...	...	...	...	...
Advanced French .....	...	...	...	407	5	71	...	...	...	...	...
Elementary French Conversation and Com- position .....	410	5	12	410	5	31	410	5	35	410	5
Advanced French .....	...	...	...	413	5	71	413	5	47	413	5
Advanced French .....	...	...	...	...	...	...	414	5	36	414	5
French Literature of the 17th Century—(1600-1660) .....	...	...	...	...	...	...	601	5	14	...	...
French Literature of the 17th Century—1660-1700) .....	602	5	23	602	5	19	...	...	...	602	5
French Literature of the 18th Century—(1750-1789) .....	...	...	...	...	...	...	608	3	11	608	3
French Novel to 1850 .....	...	...	...	609	3	26	...	...	...	...	...
The French Novel—1850 to present. ....	...	...	...	...	...	...	610	3	21	...	...
Intermediate French Conversation and Com- position .....	...	...	...	...	...	...	623	3	10	623	3
Intermediate French Conversation and Com- position .....	...	...	...	...	...	...	...	...	...	624	3
*Explication de Textes .....	...	...	...	...	...	...	625	3	7	...	...
French Phonetics .....	...	...	...	...	...	...	627	3	14	627	3
Review of French Syntax .....	...	...	...	628	3	26	...	...	...	...	...
Introduction to Old French .....	...	...	...	801	3	17	...	...	...	...	...
Research in French Literature .....	809	3-5	10	809	3-5	8	809	3-5	6	809	3-5
Seminary in French Literature .....	811	3	10	...	...	...	811	3	13	...	...
Seminary in French Literature .....	...	...	...	...	...	...	...	...	...	812	3
Old French Literature .....	...	...	...	...	...	...	...	...	...	813	3
*Explication de Textes .....	...	...	...	...	...	...	...	...	...	626	3

### ITALIAN

Elementary Italian .....	...	...	...	401	5	30	401	5	10	...	...
Modern Italian Literature (1800-1850) .....	...	...	...	...	...	...	...	...	...	601	5
Survey of Italian Literature to 1400 .....	...	...	...	...	...	...	609	3	4	...	...
Survey of Italian Literature (1400-1900) .....	...	...	...	...	...	...	...	...	...	610	3

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Dante's Life and Works .....	...	...	...	...	...	...	612	3	13	...	...	...
SPANISH												
Elementary Spanish .....	401	5	18	401	5	465	401	5	171	401	5	107
Elementary Spanish .....	402	5	12	402	5	85	402	5	304	402	5	150
Intermediate Spanish .....	403	5	13	403	5	138	403	5	47	403	5	183
Intermediate Spanish .....	...	...	...	404	5	89	404	5	79	404	5	32
Commercial Correspondence .....	...	...	...	...	...	...	405	5	24	...	...	...
Customs and Manners of Spain .....	...	...	...	...	...	...	...	...	...	406	3	8
Advanced Spanish .....	413	5	8	413	5	15	413	5	19	413	5	35
Advanced Spanish .....	...	...	...	414	5	21	414	5	7	414	5	17
Advanced Composition and Conversation .....	...	...	...	605	3	7	...	...	...	...	...	...
Advanced Composition and Conversation .....	...	...	...	...	...	...	606	3	5	...	...	...
The Modern Spanish Novel .....	...	...	...	607	5	11	...	...	...	...	...	...
The Modern Spanish Novel .....	...	...	...	...	...	...	608	5	10	...	...	...
Drama of the Golden Age .....	...	...	...	611	5	7	...	...	...	...	...	...
Drama of the Golden Age .....	...	...	...	...	...	...	612	5	6	...	...	...
Prose of the Golden Age .....	614	5	11	...	...	...	...	...	...	...	...	...
Survey of Spanish Literature from Earliest Times to End of 19th Century .....	...	...	...	...	...	...	615	5	11	...	...	...
Survey of Spanish Literature from Earliest Times to End of 19th Century .....	...	...	...	...	...	...	...	...	...	616	5	17
Advanced Syntax .....	...	...	...	617	5	10	...	...	...	...	...	...
Sound Introductory Spanish Phonetics .....	619	5	3	619	5	10	...	...	...	...	...	...
Spanish Phonetics .....	...	...	...	...	...	...	620	5	12	...	...	...
The Spanish Ballad .....	...	...	...	...	...	...	...	...	...	625	5	4
Old Spanish .....	...	...	...	805	3	5	...	...	...	...	...	...
Old Spanish .....	...	...	...	...	...	...	806	3	1	...	...	...
Research in Spanish Literature .....	...	...	...	810	2-5	3	810	2-5	2	810	2-5	3
Seminary in Spanish Literature .....	...	...	...	815	3	4	815	3	4	815	3	4
RURAL ECONOMICS												
Agricultural Economics .....	...	...	...	401	5	29	401	5	30	...	...	...
Farm Management .....	...	...	...	402	5	18	...	...	...	402	5	12
Farm Bookkeeping and Business Records .....	...	...	...	...	...	...	403	3	4	...	...	...
Sociology of Farm Folk .....	...	...	...	405	5	5	405	5	4	...	...	...
Co-operation in Agriculture .....	...	...	...	...	...	...	603	5	23	...	...	...
The Agricultural Industry .....	...	...	...	...	...	...	605	3	17	...	...	...
Sociology of Farm Folk .....	...	...	...	...	...	...	...	...	...	606	5	4
Rural Social Environment .....	...	...	...	...	...	...	608	3	4	...	...	...



Price of Farm Products	612	3	14
Distribution of Farm Products	613	5	11
Business Management in Agricultural Marketing	614	3	7
Economics of Live Stock Marketing	625	3	9
Economics of Marketing of Dairy Products	626	3	4
Special Problems	701	3-15	5
Research and Seminary	801	3-15	5
<b>SCHOOL ADMINISTRATION</b>			
Fundamentals in School Administration	600	3	114
Child Accounting	601	3	102
The Teaching Corps	605	3	21
School Finances	607	3	11
Business Management of Schools	608	3	12
Extra-Curriculum Activities	609	3	23
Administration of Rural Education	610	3	7
State Administration of Education in U.S.	611	3	6
Minor Research Problems	617	2-4	20
Minor Research Problems	619	2-4	3
Minor Research Problems	621	2	121
Proseminary (Teachers in Service)	622	2	6
Proseminary (Teachers in Service)	623	2	11
Proseminary (Teachers in Service)	624	3	18
Administration of Standard Tests in Elementary Schools	625	3	26
Administration of Standard Tests in Secondary Schools	626	3	9
Administration of Health Education	627	3	13
Administration of Vocational Education	628	3	14
Administrative Problems of the Elementary School Principal	629	3	16
Administrative Problems of the Secondary School Principal	631	3	33
Organization of the Senior High School	636	2	12
School Publicity	640	3	26
School Administration	642	3	40
Administration of the Curriculum in the Elementary School	643	3	72
Administration of the Curriculum in the Secondary School	644	3	14
Educational Statistics: Elementary	645	2	10
Educational Statistics: Intermediate	647	3	13
Administration of School Libraries	648	2	24
Planning and Construction of School Buildings	800	1	13
Equipment of School Buildings	801	3	8
Preparation of Thesis and Other Scientific Papers	802	2-5	38
Administration of Normal Schools and Colleges	803	2-5	9
Seminary in School Administration	804	3+	6
Ad Interim Projects	805	3	10
Major Research Problems			
Major Research Problems			

## THE WORK OF INSTRUCTORS—1927-1928—Continued

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Major Research Problems .....	...	...	...	...	...	...	806	3	8	...	...	...
Major Research Problems .....	...	...	...	...	...	...	...	...	...	807	3	14
Seminary in County School Administration .....	815	2-5	25	...	...	...	...	...	...	...	...	...
Seminary in School Finance and Business Management .....	816	2-5	11	...	...	...	...	...	...	...	...	...
Administrative Problems of the City Superintendent .....	830	3	5	...	...	...	...	...	...	...	...	...
SOCIOLOGY												
Principles of Sociology .....	401	5	104	401	5	297	401	5	257	401	5	284
Principles of Sociology .....	402	5	38	402	5	166	402	5	222	402	5	205
Principles of Sociology .....	...	...	...	410	5	60	410	5	62	410	5	82
Physical Anthropology .....	...	...	...	411	5	27	...	...	...	...	...	...
Social Anthropology .....	...	...	...	...	...	...	412	5	9	...	...	...
Primitive Man in Ohio .....	...	...	...	...	...	...	509	2	32	...	...	...
The Family .....	...	...	...	...	...	...	601	4	48	601	4	25
The Immigrant .....	...	...	...	...	...	...	605	4	54	...	...	...
The Race Problem .....	607	4	20	607	4	73	...	...	...	...	...	...
Adjustments of Alien Groups .....	...	...	...	...	...	...	...	...	...	609	4	44
Poverty .....	...	...	...	618	3	19	...	...	...	...	...	...
Social Treatment of Dependents .....	619	3	8	...	...	...	619	3	37	...	...	...
Social Treatment of the Child .....	...	...	...	...	...	...	...	...	...	620	3	44
The Community and the Child .....	...	...	...	621	3	19	...	...	...	621	3	45
The Criminal .....	...	...	...	...	...	...	...	...	...	625	3	113
Penology .....	...	...	...	626	3	10	...	...	...	...	...	...
Penology .....	...	...	...	...	...	...	627	3	7	...	...	...
Field Work in Statistics .....	...	...	...	638	5	28	...	...	...	...	...	...
Social Statistics .....	...	...	...	...	...	...	639	...	34	...	...	...
Leisure and Recreation .....	...	...	...	645	4	50	...	...	...	...	...	...
Social Organization and Administration of Recreation Facilities .....	...	...	...	...	...	...	646	4	14	...	...	...
Girls' Work Organization .....	...	...	...	...	...	...	...	...	...	651	4	18
Municipal Sociology .....	...	...	...	...	...	...	...	...	...	655	4	30
Rural Social Institutions .....	...	...	...	656	4	16	...	...	...	...	...	...
Welfare Problems in Rural Communities .....	...	...	...	...	...	...	657	4	8	...	...	...
Social Order and Social Control .....	...	...	...	665	3	26	...	...	...	...	...	...
Social Evolution .....	...	...	...	...	...	...	666	3	31	...	...	...
Social Progress .....	...	...	...	...	...	...	...	...	...	667	3	30

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Community Organization	668	3	18	668	3	18	668	3	18
Community Health Organization	670	3	5	670	3	5	670	3	5
Community Health Organization	671	3	5	671	3	5	671	3	5
Field Work in Sociology	675	6-12	8	675	6-12	8	675	6-12	8
Social Case Work	695	3	20	695	3	20	695	3	20
Social Case Work	696	3	20	696	3	20	696	3	20
*History of Sociological Thought	802	2	7	802	2	7	802	2	7
American Sociological Theory	805	2	4	805	2	4	805	2	4
American Sociological Theory	806	2	2	806	2	2	806	2	2
American Sociological Theory	807	2	2	807	2	2	807	2	2
*History of Sociological Thought	801	2	6	801	2	6	801	2	6
Modern Social Welfare Movements	811	4	11	811	4	11	811	4	11
Modern Social Welfare Movements	812	4	13	812	4	13	812	4	13
Graduate Seminary	821	2	5	821	2	5	821	2	5
Graduate Seminary	822	2	13	822	2	13	822	2	13
Graduate Seminary	823	2	12	823	2	12	823	2	12
Research in the History and Organization of Social Welfare Activities	824	1-4	6	824	1-4	6	824	1-4	6
Research in Social Statistics	841	1-3	2	841	1-3	2	841	1-3	2
Research in Social Statistics	842	1-3	4	842	1-3	4	842	1-3	4
Research in Social Statistics	843	1-3	5	843	1-3	5	843	1-3	5
Methods of Sociological Investigation	845	3	10	845	3	10	845	3	10
Methods of Sociological Investigation	846	3	9	846	3	9	846	3	9
Research in Rural Social Institutions	850	1-4	1	850	1-4	1	850	1-4	1
Research in Rural Social Institutions	851	1-4	1	851	1-4	1	851	1-4	1
Research in Rural Social Institutions	852	1-4	1	852	1-4	1	852	1-4	1
SOILS									
Soil Management	401	5	27	401	5	27	401	5	27
Theory and Practice in Soil Management	601	3	7	601	3	7	601	3	7
Chemical Analysis of Soils	602	5	2	602	5	2	602	5	2
Physico-Chemical Analysis of Soil	604	5	2	604	5	2	604	5	2
Special Problems	701	3-15	10	701	3-15	10	701	3-15	10
Special Problems	703	3-15	3	703	3-15	3	703	3-15	3
Research in Soils	801	5	6	801	5	6	801	5	6
Soil Seminary	802	1	8	802	1	8	802	1	8
SURGERY									
Minor Surgery	601	3	85	601	3	85	601	3	85
Ward Clinics	602	2	78	602	2	78	602	2	78
Dispensary Clinic	602	3	83	602	3	83	602	3	83
General Surgery	602	5	79	602	5	79	602	5	79
Ward Clinics	603	2	80	603	2	80	603	2	80
Dispensary	603	3	80	603	3	80	603	3	80
General Surgery	603	5	73	603	5	73	603	5	73
General Surgery	604	5	73	604	5	73	604	5	73
Gynecology	605	3	69	605	3	69	605	3	69
Conference Clinics	607	1	85	607	1	85	607	1	85
Conference Clinics	608	1	84	608	1	84	608	1	84
Conference Clinics	609	1	80	609	1	80	609	1	80
Operative Surgery	610	2	84	610	2	84	610	2	84

THE WORK OF INSTRUCTORS—1927-1928—Continued

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COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
<b>VETERINARY MEDICINE</b>												
Topographic Anatomy of Domestic Animals...	...	...	...	404	5	28	...	...	...	...	...	...
Topographic Anatomy of Domestic Animals...	...	...	...	...	...	...	405	5	27	...	...	...
Applied Anatomy of Domestic Animals...	...	...	...	...	...	...	407	3	10	...	...	...
Anatomy of the Horse III	...	...	...	410	5	47	...	...	...	...	...	...
Veterinary Medicine	...	...	...	...	...	...	411	5	48	...	...	...
Anatomy of the Horse I	...	...	...	...	...	...	...	...	...	412	5	45
General Pathology	...	...	...	...	...	...	...	...	...	421	5	25
General Pathology	...	...	...	422	2	15	...	...	...	...	...	...
Special Pathology	...	...	...	...	...	...	423	4	14	...	...	...
Special Pathology	...	...	...	...	...	...	...	...	...	424	4	14
Special Pathology of Infectious Diseases...	...	...	...	426	4	13	...	...	...	...	...	...
Meat Inspection	...	...	...	...	...	...	427	3	13	...	...	...
Parasitology	...	...	...	...	...	...	428	4	13	...	...	...
Post Mortem and Laboratory Diagnosis...	...	...	...	430	½	15	...	...	...	...	...	...
Post Mortem and Laboratory Diagnosis...	...	...	...	...	...	...	431	½	14	...	...	...
Post Mortem and Laboratory Diagnosis...	...	...	...	...	...	...	...	...	...	432	1	14
Post Mortem and Laboratory Diagnosis...	...	...	...	433	½	13	...	...	...	...	...	...
Post Mortem and Laboratory Diagnosis...	...	...	...	...	...	...	434	1	13	...	...	...
Post Mortem and Laboratory Diagnosis...	...	...	...	...	...	...	...	...	...	435	1	13
Histology of the Domesticated Animals...	...	...	...	...	...	...	436	5	48	...	...	...
Histology	...	...	...	...	...	...	...	...	...	437	5	43
Sporadic Diseases of Large Animals...	...	...	...	...	...	...	441	4	14	...	...	...
Sporadic Diseases of Large Animals...	...	...	...	...	...	...	...	...	...	442	4	15
Infectious Diseases of Large Animals...	...	...	...	443	4	13	...	...	...	...	...	...
Infectious Diseases of Large Animals...	...	...	...	...	...	...	444	4	13	...	...	...
Agricultural Veterinary Medicine	...	...	...	451	3	10	...	...	...	...	...	...
Agricultural Veterinary Medicine	...	...	...	...	...	...	452	3	17	452	3	21
Materia Medica and Therapeutics...	...	...	...	...	...	...	461	4	22	...	...	...
Materia Medica and Therapeutics...	...	...	...	...	...	...	...	...	...	462	4	20
Diseases of Small Animals	...	...	...	463	3	16	...	...	...	...	...	...
Diseases of Small Animals	...	...	...	...	...	...	464	4	14	...	...	...
Horseshoeing	...	...	...	...	...	...	465	3	14	...	...	...
General Surgery	...	...	...	466	4	17	...	...	...	...	...	...
Medical and Surgical Clinics	...	...	...	467	3	15	...	...	...	...	...	...
Medical and Surgical Clinics	...	...	...	...	...	...	468	3	17	...	...	...
Medical and Surgical Clinics	...	...	...	...	...	...	...	...	...	469	3	14
Medical and Surgical Clinics	...	...	...	470	3	13	...	...	...	...	...	...
Medical and Surgical Clinics	...	...	...	...	...	...	471	3	13	...	...	...



Medical and Surgical Clinics .....	...	...	...	...	...	...	...	...	472	3	13
Physical Diagnosis .....	...	...	...	473	3	15	...	...	...	...	...
Special Surgery .....	...	...	...	474	4	13	...	...	...	...	...
Special Surgery .....	...	...	...	...	...	...	475	4	13	...	...
Special Surgery .....	...	...	...	...	...	...	...	...	476	4	13
Operative Practice .....	...	...	...	477	1	13	...	...	...	...	...
Obstetrics .....	...	...	...	...	...	...	...	...	478	4	13
Hygiene and Sanitation .....	...	...	...	...	...	...	...	...	479	3	13
Ophthalmology .....	...	...	...	...	...	...	...	...	480	2	13
Diseases of Poultry .....	...	...	...	...	...	...	...	...	481	3	15
Veterinary Medical Jurisprudence .....	...	...	...	...	...	...	...	...	485	1	13
Special Bovine Pathology .....	...	...	...	...	...	...	...	...	823	5	1

#### VOCATIONAL EDUCATION

Principles and Methods of Teaching Com- mercial Subjects .....	485	3	15	...	...	...	...	...	...	...	...
Part Time School Curricula .....	504	2	5	...	...	...	...	...	...	...	...
Curricula for Commercial Courses .....	507	3	9	...	...	...	...	...	...	...	...
Special Methods in Vocational Teaching .....	511	2	4	...	...	...	...	...	...	...	...
Principles of Commercial Education .....	605	3	4	...	...	...	...	...	...	...	...
Principles of Vocational Guidance .....	606	3	7	...	...	...	...	...	...	...	...

#### ZOOLOGY AND ENTOMOLOGY

Elementary Zoology .....	401	5	56	401	5	677	401	5	217	401	5	169
Elementary Zoology .....	402	5	47	402	5	89	402	5	461	402	5	182
General Principles of Heredity .....	403	5	40	403	5	96	...	...	...	403	5	141
Animal Parasites .....	...	...	...	...	...	...	404	5	12	...	...	...
Animal Microtechnic .....	...	...	...	...	...	...	...	...	...	407	3	10
Evolution .....	...	...	...	...	...	...	409	5	65	409	5	47
Elementary Zoology for Pre-Medical Students .....	...	...	...	...	...	...	...	...	...	411	5	146
Economic Entomology .....	451	5	9	451	5	33	...	...	...	451	5	54
Economic Entomology .....	...	...	...	...	...	...	452	5	12	...	...	...
Apiculture .....	...	...	...	...	...	...	...	...	...	453	5	8
Entomological Literature and Principles of Taxonomy .....	...	...	...	...	...	...	456	5	2	...	...	...
Advanced Studies in Animal Heredity .....	...	...	...	601	3	7	...	...	...	601	3	4
Animal Ecology .....	...	...	...	...	...	...	...	...	...	604	5	6
Animal Behavior .....	...	...	...	605	3-5	16	...	...	...	...	...	...
Animal Behavior .....	...	...	...	...	...	...	...	...	...	607	3-5	8
Advanced Zoology of Invertebrates .....	...	...	...	615	5	18	...	...	...	...	...	...
Advanced Zoology of Invertebrates .....	...	...	...	...	...	...	616	5	16	...	...	...
Cellular Biology .....	...	...	...	...	...	...	...	...	...	617	5	4
Advanced Entomology .....	...	...	...	651	5	9	...	...	...	...	...	...
Advanced Entomology .....	...	...	...	...	...	...	652	5	10	...	...	...
Insect Control .....	...	...	...	653	5	9	...	...	...	...	...	...
Insect Control .....	...	...	...	...	...	...	...	...	...	654	5	9
Morphology and Development of Insects .....	...	...	...	656	5	5	...	...	...	...	...	...
Special Problems .....	700	3-5	17	...	...	...	...	...	...	...	...	...
Special Problems .....	...	...	...	701	3-5	18	...	...	...	...	...	...
Special Problems .....	...	...	...	...	...	...	702	3-5	31	...	...	...
Special Problems .....	...	...	...	...	...	...	...	...	...	703	3-5	34

# THE WORK OF INSTRUCTORS—1927-1928—Continued

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Seminary in Zoology .....	...	...	...	801	1	31	...	...	...	...	...	...
Seminary in Zoology .....	...	...	...	...	...	...	802	1	39	...	...	...
Seminary in Zoology .....	...	...	...	...	...	...	...	...	...	803	1	14
Invertebrate Zoology .....	...	...	...	805	5	7	...	...	...	...	...	...
Invertebrate Zoology .....	...	...	...	...	...	...	806	5	7	...	...	...
Invertebrate Zoology .....	...	...	...	...	...	...	...	...	...	807	5	5
Research .....	810	5	19	...	...	...	...	...	...	...	...	...
Research .....	...	...	...	811	3-10	24	...	...	...	...	...	...
Research .....	...	...	...	...	...	...	812	3-10	32	...	...	...
Research .....	...	...	...	...	...	...	...	...	...	813	3-10	42



APPENDIX VI

\* SHOWING THE WHOLE NUMBER OF DEGREES IN COURSE CONFERRED SINCE THE FOUNDING OF THE UNIVERSITY

	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Bachelor of architecture .....																																																			
Bachelor of architectural engineering .....																																																			
Bachelor of arts .....	1	1	6	2	2	1	5	4	6	8	6	1	7	2	6	9	12	19	13	17	18	8	14	16	6	16	68	68	93	80	80	107	120	122	139	148	193	169	194	176	119	120	169	216	230	219	254	277	264	265	301
Bachelor of engineering .....																																																			
Bachelor of ceramic engineering .....																																																			
Bachelor of chemical engineering .....																																																			
Bachelor of civil engineering .....																																																			
Bachelor of electrical engineering .....																																																			
Bachelor of industrial engineering .....																																																			
Bachelor of mechanical engineering.....																																																			
Bachelor of metallurgical engineering .....																																																			
Bachelor of engineering in mining .....																																																			
Bachelor of engineering physics .....																																																			
Bachelor of philosophy .....				2																																															
Bachelor of science .....	5	5	1	2	5	3	2	4	4	4	8	2	10	7	11	7	9	4	10	10	2	4	6	9	5	14	23	19	32	20	22	20	13	58	54	99	108	124	117	43	33	89	126	103	140	118	112	97	87	86	
Bachelor of science (Agr.) .....							1	1																																											
Bachelor of science in applied optics .....																																																			
Bachelor of science in biology .....																																																			
Bachelor of science in business admr .....																																																			
Bachelor of science in chemistry .....																																																			
Bachelor of science in dom. science .....																																																			
Bachelor of science in education .....																																																			
Bachelor of science in entomology .....																																																			
Bachelor of science in forestry .....																																																			
Bachelor of science in home economics .....																																																			
Bachelor of science in horticulture .....																																																			
Bachelor of science (H. F.) .....																																																			

# APPENDIX VI—Concluded

	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928		
Master of Science				1								1	1	2	2	2			3	3	2	3	3	2	1								1	8	6	14	15	25	32	19	8	29	36	44	27	43	54	52	50	59			
Master of Science (Agriculture)																		1	2		1									2	1	3	3	1																			
Master of Science (Dom. Sc.)																												1						1																			
Master of Science (H. F.)																				1	1	1										1																					
Master of Science in public health																																							3				1	1									
Master of Science in Social Admr.																																																					
Doctor of Philos- ophy	1																								1			1	1				2		1	5	1	2	1	3	11	9	4	7	8	13	19	24	38	31	46	44	
Doctor of Science												1																																									
Doctor of Dental Surgery																																																					
Doctor of Medicine																																																					
Juris Doctor																																																					
Bachelor of Laws																																																					
Master of Laws																																																					
Total	6	7	9	8	9	11	12	16	18	24	28	26	30	36	61	79	70	112	118	135	126	99	137	135	141	171	194	209	225	249	287	333	370	422	501	515	649	793	902	941	565	470	801	970	1054	1255	1382	1615	1723	1590	1755		
Degrees conferred during the year																																																					
Totals																																																					

\* Statistics given prior to 1904 covered only the degrees granted at the Commencement.



# APPENDIX VII

## SHOWING THE NUMBER OF STUDENTS IN THE GENERAL, TECHNICAL, AND PROFESSIONAL COURSES

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
General Courses (College of Arts).....	137	151	194	245	256	322	327	358	371	419	439	403	490	496	490	551	572	630	714
Technical Courses (other Colleges, except Law).....	166	259	381	368	424	453	453	511	541	603	771	888	1039	1135	1129	1262	1280	1436	1626
Professional Courses (College of Law).....		55	67	72	65	100	132	148	191	201	220	188	166	171	179	162	153	138	132
*Graduate Students and Summer School.....	2			1		94	97	133	75	45	51	49	62	108	54	240	339	379	458
**Summer School (Shopwork).....															74	75	81	80	90
Lake Laboratory (Summer).....												19			23	32	26	19	26
Totals.....	305	465	642	686	745	969	1009	1150	1178	1268	1481	1547	1757	1933	1958	2316	2444	2689	3052
Names counted twice.....																159	167	216	258
Net total.....																2157	2277	2473	2794

# APPENDIX VII—Concluded

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
General Courses (Colleges of Arts, Commerce and Journalism, and Education).....	845	865	962	1009	1139	1494	1820	2198	2220	2558	3422	3802	4147	4493	5153	5519	5588	5926	6418
Technical Courses (Other Colleges Except Dentistry, Homeopathic Medicine, Law, and Medicine).....	1643	1780	1979	2106	2392	2373	2491	2398	1884	2129	2733	3003	2982	2878	2791	2831	2416	2767	2545
Professional Courses (Colleges of Dentistry, †Homeopathic Medicine, Law, and Medicine).....	181	170	185	198	187	615	556	514	384	300	718	611	688	724	766	830	1189	876	1214
Graduate Courses (Graduate School).....	96	70	97	128	133	185	244	233	161	143	208	269	332	488	594	743	770	856	1045
Summer Session.....	606	617	738	575	671	926	1010	1166	918	909	1229	1391	1543	1925	2404	2724	2807	2760	3049
Lake Laboratory (Summer).....	36	22	23	25	32	14	19	15	14	2	11	18	19	17	15	21	19	29	31
Winter Courses.....	159	183	273	227	203	187	173	187	119	121	178	86	121	87	76	81	73	211	112
Extension Course in Vocational Education.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	75	59	181	...
Extension Course in Commerce and Journalism.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	295	546	879	...
Total.....	3566	3707	4262	4268	4757	5794	6313	6711	5700	6162	8499	9180	9882	10612	11799	12824	13216	14152	15293
Names counted twice.....	291	268	334	299	322	462	491	523	550	437	682	867	1032	1117	1311	1289	1131	1129	1368
Net Total.....	3275	3439	3928	3969	4435	5332	5822	6188	5150	5725	7817	8313	8850	9495	10488	11535	12085	13023	13925

\* Until 1896 graduate students have been included in the first three classes.

\*\* Until 1904 summer term students in shopwork have been included with graduate students.

† The teaching of Homeopathic Medicine in this University was discontinued on and after August 15, 1922.

## APPENDIX 7-A

## ENROLLMENT FOR ACADEMIC YEAR 1927-1928

College	Summer	Autumn	Winter	Spring	Total	Grand Totals
Agriculture .....	137	764	745	649	903	.....
Winter Courses .....	...	...	112	...	112	.....
						1015
Applied Optics .....	1	34	34	33	39	39
Commerce and Administration.....	231	1787	1668	1508	2054	.....
Commerce Extension .....	...	513	346	192	879	.....
						2933
Dentistry .....	...	281	271	266	285	285
Education .....	1036	1682	1514	1451	2624	2624
Engineering .....	166	1562	1499	1358	1689	1689
Law .....	1	307	286	277	305	305
Liberal Arts .....	377	2371	2208	2010	2629	2629
Liberal Arts-Education.....	39	105	98	107	136	136
Medicine .....	8	329	318	305	331	331
Pharmacy .....	16	193	179	162	197	197
Veterinary Medicine .....	5	94	98	92	99	99
Graduate School .....	1045	749	734	765	1753	1753
Lake Laboratory .....	31	...	...	...	31	31
Totals .....	3093	10771	10110	9175	...	14066
Less Duplicates .....	13	75	86	85	141	141
Grand Totals .....	3080	10696	10024	9090	...	13925



## APPENDIX VIII

### DEGREES AND CERTIFICATES GRANTED DURING YEAR 1927-1928

#### SUMMER QUARTER 1927

##### GRADUATE SCHOOL

Dean: WILLIAM MCPHERSON

##### DOCTOR OF PHILOSOPHY

Ruhl Jacob Bartlett, A. B. (Ohio University); M. A. (University of Cincinnati).....	Jackson Center
Irma Loeb Cohen, B. A., M. A.....	Columbus
Perry Perdue Denune, A. B. (Hiram College); M. A.....	Columbus
Velorous Martz, B. A., M. A.....	Columbus
William Dickson Nicoll, B. S. (Tarkio College); M. Sc.....	Tarkio, Mo.
David Charles O'Donnell, A. B. (Miami University); M. Sc.....	Lima
Winifred Eustace Payne, A. B. (University of Utah); A. M. (University of Chicago).....	Tiffin
Karl Chapman Pratt, B. A., M. A.....	Wellington
Margaret Fenton Shaw, A. B. (Mount Holyoke College); S. M. (University of Chicago).....	Honolulu, T. H.
George Clifford Strouse, B. S. (The College of Wooster) M. Sc.....	Brinkhaven
James Earl Taylor, A. B. (Wittenberg College); M. A.....	Springfield
Raleigh Pearl Ward, B. A., M. Sc.....	Columbus
Charles Edward Waring, B. A. (Ohio Wesleyan University); M. A.....	Troy
Sheppard Arthur Watson, B. Sc. in Agr., M. S. (Kansas State Agricultural College).....	Wilmington

(Fourteen candidates)

##### MASTER OF ARTS

Michael Louis Altstetter, B. A.....	Orlando, Fla.
Harry Smith Armstrong, B. A. (Defiance College).....	Hicksville
Thearle Aubrey Barnhart, B. A. (University of South Dakota).....	Columbus
Chester Douglas Barr, A. B. (Miami University).....	Columbus
Lee Bryan Bauer, B. S. in Edu. (Ohio University).....	Medina
Fred Adam Bernlohr, A. B. (Capital University).....	Columbus
Catharine Emma Biesecker, A. B. (Asbury College).....	Delaware
Roy Oren Billet, B. Sc. in Edu.....	Painesville
C. Floyd Byers, A. B. (Bluffton College).....	Bluffton
Creston Ormonde Callahan, B. A. (Ohio Wesleyan University).....	Woodstock
George Eldon Carr, A. B. (Ohio University).....	McConnellsville
Albert Edwin Chandler, B. A. (University of Texas).....	Abilene, Tex.
Bessie Martha Cole, A. B. (Ohio University).....	Martins Ferry
Raymond Bert Cramer, A. B. (Lawrence College).....	Oskaloosa, Ia.
Otho Berle Cummins, A. B. (Defiance College).....	Brunswick
Truth Daniel, B. Sc. in Edu.....	Columbus
William Dwight Darling, B. Sc. in Edu.....	Carroll
Mary Mabel Davidson, A. B. (Heidelberg College).....	Dayton
Leroy Davis, B. S. (Findlay College); B. A.....	Findlay
Don Louis Demorest, B. A.....	Oxford
Paul Cannon Estep, B. S. (Franklin College).....	New Athens
Morris Freeman Fergus, B. Sc. in Bus. Adm.....	Columbus
Carl Baker Ferguson, B. A. (The College of Wooster).....	Olmsted Falls
George Alvin Finch, B. A.....	Columbus
Berlin Raymond Ford, B. S. in Edu. (Ohio Northern University).....	Lafayette

Herbert Leland Ford, B. A.	Shiloh
Charles Josiah Foster, B. S. (Ohio Northern University)	Columbus
Harold Vincent Gaskill, B. A.	Columbus
Stanley Lamar Gingery, B. A. (Ohio Wesleyan University)	Columbus
Robert McKinley Grueninger, B. Sc. in Agr.	Cleveland
Raymond Gillette Guthrie, B. Sc. in Edu.	Columbus
Mary Elizabeth Hamilton, B. S. in Edu. (Ohio University)	Marysville
Hiram Wayne Harshfield, B. Sc. in Agr.	East Liberty
Otis C. Hatton, B. A.	Akron
John Mills Haynes, B. A.	Norwood, Cincinnati
John Wilson Hey, A. B. (Miami University)	Ohio City
Oscar Himebaugh, B. S. (Ohio Northern University)	Akron
Henry Kendrick Holt, B. S. (Denison University)	Hyannis, Mass.
Paul Lee Huber, B. A. (Ohio Wesleyan University)	Kilbourne
Clayton Darius Hutchins, B. A., B. Sc. in Edu.	Columbus
Tin-Ihsing, B. Sc. in Edu.	Fu-Yang, Anhui, China
Edward Russell Johnson, A. B. (Wittenberg College)	Amherst
Franklin Pierce Kaiser, B. Sc. in Edu.	Columbus
Amma Dee Kemp, B. Sc. in Edu. (Ohio University)	Masury
Margaret Hannah Koehler, B. A., B. Sc. in Edu.	Columbus
Chung Lin Kuan, B. A. (Yenching University, China)	Shanghai, China
Laura Helen Leech, A. B., B. S. in Edu. (Ohio University)	Athens
James Franklin Lewis, A. B. (De Pauw University)	Dayton
William Allen Lewis, A. B. (Rio Grande College)	Rio Grande
Leona Whitworth Logue, Ph B. (University of Chicago)	Columbus
Howard Porter Longstaff, A. B. Ohio University)	Middleport
Oscar Earle McClure, B. S. in Edu. (Ohio University)	Athens
Frederick Alphonso McGinnis, Ph. B. in Edu. (University of Chicago)	Wilberforce
Ella Corine Meck, B. A. (Ohio Wesleyan University)	Bucyrus
Jerome Naegle Miller, B. A.	Lancaster
Bernice Young Mitchell, B. A. (Wilberforce University)	Pomeroy
M'Della Moon, A. B. (Miami University)	Trenton
Stewart Samuel Morgan, A. B. (University of Cincinnati)	Cincinnati
Caroline Juliette Muskat, B. A.	Marietta
Eunice Viola Pepsico, B. Sc. in H. E.	Chillicothe
Thomas Clark Pollock, B. A. (Muskingum College)	Columbus
Myles Elliott Robinson, B. A.	Columbus
William Frank Rofkar, B. Sc. in Agr.	Port Clinton
William Alfred Rolland, A. B. (Baldwin-Wallace College)	Cleveland
Floyd Meisse Rueb, B. A. (Ohio Wesleyan University)	Bainbridge
Harry Aston Russell, B. A. (Richmond College)	West Carrollton
Margaret Dorothy Ryan, A. B. (Indiana State Normal School)	Muncie, Ind.
Charles William Shull, B. A. (Ohio Wesleyan University)	Delaware
Willard Edison Singer, B. E. E. (Capital University)	Columbus
Paul W. Sloan, A. B. (Defiance College)	Grelton
Marjorie Knowlton Snively, B. A.	Columbus
Kenneth Kyle Strock, B. Sc. in Edu.	Newton Falls
Louis Le Grand Taylor, B. Sc. in Edu.	Columbus
Henry Peter Thielmann, A. B. (Bluffton College)	Bluffton
Hugh Cochran Thompson, B. A.	Zanesville
Cloyce Benjamin Ulery, B. A. (Ohio Wesleyan University)	Columbus
Carl Wesley Vesper, B. S., A. B. (Ohio Northern University)	Troy
Esther Elizabeth Wagner, B. S. in Edu. (Miami University)	Dover
Annabelle Watts, A. B. (Asbury College)	Columbus
Paul Herman Weaver, A. B. (Heidelberg University)	Sylvania
Thomas Keener Wenrick, A. B. (Miami University)	Greenville
Robert James Wherry, B. Sc. in Edu.	Middletown
William Terry Wickham, A. B. (Heidelberg University)	Chagrin Falls
Donald Alden Wilbur, B. S. (Oregon State Agricultural College)	Columbus
Roland Gage Will, A. B. (Rio Grande College)	Pomeroy
Catharine Melissa Williams, B. Sc. in Edu.	Marysville
John Joshua Wolford, A. B. (Miami University)	Xenia
Samuel Klinger Workman, B. A. (Kenyon College)	Mt Vernon
Harry Benjamin Wyman, B. Sc. in Edu.	McArthur



James Mortimer York, B. A.....	Good Hope
Harrison Carl Zellner, A. B. (Heidelberg University).....	Castalia
(Ninety-one candidates)	

## MASTER OF SCIENCE

Thomas Irland Beddow, A. B. (Central Michigan Normal School).....	Mt. Pleasant, Mich.
Margaret Cochrane Black, B. S. (Columbia University Teachers' College).....	Columbus
William Leslie Bleecker, D. V. M.....	Fayetteville, Ark.
Herbert Morgan Gans, B. S. in Agr. (Pennsylvania State College).....	Gans, Pa.
Charles Edward Hammett, Jr., B. S. (Allegheny College).....	Meadville, Pa.
Louis Mace Heil, B. E. Physics.....	Columbus
Ross Baker Kefauver, B. S. (Heidelberg University).....	Canal Winchester
George McPherson, B. Sc. in Hort.....	Columbus
Dwight Sharon Masters, A. B. (Marietta College).....	Marietta
William Herman Powers, B. Sc. in Agr. (Notre Dame University).....	Titusville
Pauline Snyder, B. Sc. in Edu.....	Bucyrus
Glen Herbert Stringfield, B. Sc. in Agr. (University of Nebraska).....	Wooster
(Twelve candidates)	

## CANDIDATES FOR TWO DEGREES

Elizabeth Fay Clark.....	Columbus
Bachelor of Arts	
Bachelor of Science in Education	
Martha Bell Miller.....	Cleveland
Bachelor of Arts	
Bachelor of Science in Education	
Kenneth Cochran Thompson.....	Zanesville
Bachelor of Arts	
Bachelor of Science in Education	
(Three candidates)	

## COLLEGE OF AGRICULTURE

Acting Dean: JAY BOARDMAN PARK

## BACHELOR OF SCIENCE IN AGRICULTURE

Carl Wesley Barker.....	Celina
Winfield Hitchcock Bush.....	Kennedy, N. Y.
Harold Edwin Drum.....	Woodsfield
Hoyle Culpepper Griffffin.....	Columbus
George Dewey Lavender.....	Ostrander
Earl Neil Moore.....	Warner
Alan Wardlaw Woodrow.....	Raymond
Seven candidates)	

## BACHELOR OF SCIENCE IN HOME ECONOMICS

Grace Rea Beckwith.....	Malta
Lulu Laurene Shaw, B. A.....	Columbus
(Two candidates)	

## COLLEGE OF LIBERAL ARTS

Acting Dean: WILBUR HENRY SIEBERT

## BACHELOR OF ARTS

Leon Arons (with honors).....	Columbus
Beatrice Alice Barker.....	Dayton

Regina Bault.....	Plain City
Esther Bean.....	Columbus
Robert Lee Bigler.....	Gettysburg
Margaret Louise Brooks.....	McConnelsville
Helen Haines Cabell.....	Cleveland
Louise Lulu Canning, B. Sc. in Edu.....	Columbus
* Elizabeth Fay Clark.....	Columbus
Vlema Grace Currier, B. Sc. in Edu.....	Columbus
Iona Wanda Darling.....	Ironton
Glenn Eugene Detling.....	Ansonia
Alice Elizabeth Diamond.....	Erie, Pa.
Paul Jacob Fink.....	Allentown, Pa.
Elmo Gladys Goontz.....	Muncie, Ind.
Anne Price Hall.....	Columbus
Malcolm McCallum Hargraves.....	Akron
Mildred Fearrington Hargraves.....	Columbus
Edgar Allen Herr.....	Bluffton
William Herbert Holbein.....	Zanesville
George Joseph Holub.....	Columbus
Madeline Virginia Horn.....	Dayton
Clarence William Hullinger.....	Springfield
Carva Crawford Jones.....	Columbus
Rosemary Kiernan.....	Columbus
Elmer Martin Kilpatrick.....	Payne
Ruth Alice Koons.....	Marietta
Morris Cecil Leikind.....	Cleveland
Theodore Gaillard Lilley.....	Columbus
Mary Helen Love.....	Clyde
Chieh Ma.....	Honan, China
Jacob John Meister.....	Cleveland
Sarah Seymour Meriam.....	Cleveland
* Martha Bell Miller.....	Cleveland
Lydia Ruth Paige Palomo.....	Columbus
Helen Grace Porter.....	Wabash, Ind.
Elinor Constance Pyle.....	Toledo
Margaret Marion Rimer.....	Vaughnsville
Harold Smith Sayre.....	Columbus
Max Adams Shepard (with honors).....	Washington, D. C.
George Edwin Simpson, B. Sc. in Edu.....	Columbus
James Kinley Skipper (with honors).....	Steuensville
Robert Fries Slotterbeck.....	Bloomdale
Matthew Joseph Smith.....	Columbus
Dorita Violet Soler.....	Columbus
Berger Thomas.....	Columbus
* Kenneth Cochran Thompson.....	Zanesville
Clair Monroe Trunick.....	Ironton
Peter Vacca.....	Columbus
Catharine Agnes Wells.....	Wilkesville
Anne Bernadine Whitmer (with honors).....	Columbus
Herbert Edgar Wolfe.....	Tiffin
Paulyne June Wollam.....	Columbus
Merle Kenlay Young.....	Toledo

(Fifty-four candidates)

## COLLEGE OF COMMERCE AND ADMINISTRATION

Acting Dean: WALTER CROTHERS WEIDLER

## BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

Raymond Joseph Aish.....	Olmsted Falls
Morley Bernhardt.....	Cleveland

\* Two Degrees



Kenneth Carlisle Bracy.....	Lakewood
Robert Warren Cohen.....	Youngstown
Wendell Phelps Culler.....	Hicksville
Zilloh La Verne Daring.....	Toledo
Rosser Andrews Donley.....	Cleveland
Harvey Philip Heil.....	Lakewood
Mary Samantha Hicks.....	Hopedale
William Paul Hunt.....	Toledo
Mary Margaret Keys.....	Steubenville
Max Charles Levy.....	Wheeling, W. Va.
Frederick Charles Mackey.....	Galion
Allen Leymoine Meyer.....	Columbus
Walter Spencer Motter.....	Bluffton
John Howard Nichols.....	La Grange
Gordon Winston Pilot.....	Cleveland
Sanford Rothman.....	Cleveland
Elmer William Sanger.....	Shelby
Herbert Reed Slough.....	Mansfield
Ernest Stark.....	Cleveland
Grace Gillespie Stine.....	Columbus
John Lindsay Tipton.....	Steubenville
Edna Frances Tromble.....	Cleveland
Lea Carl Underwood.....	Mt. Victory
Norman Felton Vickery.....	Columbus
Margaret Henrietta Wilder.....	Columbus
David Henry Wolf.....	Dayton

(Twenty-eight candidates)

## BACHELOR OF SCIENCE IN JOURNALISM

Joseph Howard Aston.....	Norwood
William Thomas Buchanan.....	Alliance
Gladys Muriel Jones.....	Springfield
Esther Tillie Mohilewsky.....	Ashtabula
Eleanor Susanne Penniman.....	Columbus
Nilakandan Perumal Pillai.....	Columbus
Charles Russell Stokley.....	Cambridge
Elmer Charles Tryon.....	Huron

(Eight candidates)

## BACHELOR OF SCIENCE IN SOCIAL ADMINISTRATION

Estelle Frances Anderson.....	Columbus
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(One candidate)

## COLLEGE OF EDUCATION

Dean: GEORGE FREDERICK ARPS

## BACHELOR OF SCIENCE IN EDUCATION

Paul Joseph Aigler.....	Bellevue
Margaret Ruth Alban.....	Columbus
Dwight Spurgeon Allen, B. A.....	Columbus
Gladys Mae Barker.....	Delaware
Dorothy Mary Beynon.....	Columbus
Emily Jane Billison.....	Columbus
Onna Elizabeth Bitz.....	Toledo
Edna Marie Blair, B. A.....	Kenova, W. Va.
Dorothy Leola Briner.....	Attica
Jessie Pauline Cameron.....	Columbus
Robert Stoner Chamberlain, A. B. (Leland Stanford, Jr. University).....	Canton
* Elizabeth Fay Clark.....	Columbus

\* Two Degrees

Paschal F. Coggins.....	New Castle
Gladys Hayes Corey.....	Marion
Robert Bradley Craig.....	Mingo Junction
Clarence Henley Cramer, B. A.....	Columbus
Earl Leroy Dent.....	Canton
Carminella Mary DiGregory.....	Steubenville
Clarice Mae Doan.....	Woodsfield
Mary Ida Doorley.....	Sidney
Margaret Cecilia Esmond.....	Columbus
Vivien Lucille Foster.....	Seville
Katherine Geyer.....	Zanesville
Selma Edythe Goldberg.....	Youngstown
Elizabeth Coon Gustin.....	Columbus
Margaret Genevieve Haren.....	Columbus
Bessie Baskin Hirsch.....	Newark
Helena Emma Hoelscher.....	St. Marys
Archie McDonald Holland.....	Youngstown
Iris Beverly Hull.....	Fort Recovery
Wallace Wilbur Jackson.....	Columbus
Freda LuCerne Johnson.....	Brunswick
Ardis Marie Jones.....	Ostrander
Florence Josephine Kelley.....	Columbus
Thomas Caleb Knapp.....	Dorset
Marie Catherine Konig.....	Cleveland
Orville Lester Lawrence.....	New Madison
Mary Isabelle McBroom.....	Defiance
Virginia Gertrude McClintock.....	Columbus
Claudius B. McCollister, A. B. (Wilmington College).....	Wilmington
Helen Lourena McLarty.....	Harvey, Ill.
Elizabeth Lincoln Merritt.....	Youngstown
* Martha Bell Miller.....	Cleveland
Ruth Jeanette Mitchell.....	Marietta
Irvin Joseph Nisonger.....	Lakeview
John Marshall Osborn.....	Van Wert
Joseph Georges Palumbo.....	Cleveland
Roy Elsworth Patterson.....	Ludlow Falls
Dorothy Elizabeth Potts.....	Holister
Kenneth Willet Povenmire.....	Columbus
Nan Pritchard.....	New Philadelphia
Carl Richard Reese.....	Columbus
William Arna Rhoton.....	Columbus
Malinda Mae Rollins.....	Van Wert
Ellis Benton Salt.....	Columbus
Harold C. Sauder.....	Ravenna
William Jacob Scheidt.....	Ohio City
Thelma Irene Schoonover.....	Columbus
Mildred Belle Sidener.....	Lima
Ethel Audrey Spencer.....	Columbus
Douglas Robert Stanfield.....	Rushsylvania
Rhoda Bernardine Stoer.....	Williamsport
John Willard Strawn.....	Sunbury
Mary Scerelda Sweeney.....	Amlin
Bertha Virginia Taylor.....	Cleveland
* Kenneth Cochran Thompson.....	Zanesville
Elias Tuggle.....	Columbus
Blanche Woods Van Derbeck.....	Columbus
Ray Osburn Walker.....	Wapakoneta
Margaret Lucile Walter.....	Columbus
Millard Leroy Warren.....	Medina
Muriel Wells White.....	Newark
Jessie Williamson.....	Black Lick
Ne-Wa-Ta Winn.....	Columbus



Edith Norma Witten.....	Lima
Gertrude Frida Wolters.....	Youngstown
(Seventy-six candidates)	

## COLLEGE OF ENGINEERING

Dean: EMBURY A. HITCHCOCK

## BACHELOR OF ARCHITECTURE

George Joseph Lincoln.....	Woodstock
(One candidate)	

## BACHELOR OF CHEMICAL ENGINEERING

Edward Alepheld Beidler.....	Upper Sandusky
(One candidate)	

## BACHELOR OF ELECTRICAL ENGINEERING

Francis Patrick Taugher.....	Mt. Vernon
(One candidate)	

## BACHELOR OF MECHANICAL ENGINEERING

Irving William Ferguson.....	Columbus
Edward Howell Windle.....	Washington, D. C.
(Two candidates)	

## BACHELOR OF METALLURGICAL ENGINEERING

William Clifford Schwenn.....	Hamilton
Fred C. Smith.....	Malta
(Two candidates)	

## COLLEGE OF MEDICINE

Acting Dean: CLAYTON S. SMITH

## DOCTOR OF MEDICINE

George Waldo Bond, D. V. M.....	Columbus
Edward Harrison Calvert.....	Columbus
(Two candidates)	

## AUGUST CONVOCATION—1927

College	Men	Women	Total
Graduate School.....	93	24	117
College of Agriculture.....	7	2	9
College of Liberal Arts.....	27	27	54
College of Commerce and Administration.....	28	9	37
College of Education.....	28	48	76
College of Engineering.....	7	..	7
College of Medicine.....	2	..	2
Total .....	192	110	302
Candidates receiving two degrees.....			3
Candidates for degrees.....			299
Total .....			302

## THE OHIO STATE UNIVERSITY

## AUTUMN QUARTER, 1927

## GRADUATE SCHOOL

Acting Dean: GEORGE HOLLAND SABINE

## MASTER OF ARTS

Hubert Menno Amstutz, B. A., B. Sc. in Edu.....	Columbus
William Aaron Bair, B. S. in Edu. (Findlay College).....	Findlay
Frank Prophet Bakes, B. A.....	Mt. Gilead
Burl Simpson Brown, Ph. B., B. Ped. (Ohio Northern University).....	Unio polis
Marlin Blanchard Collins, B. Sc. in Edu.....	Dayton
Lillian Shera Edwards, B. A.....	Columbus
Alice Hortense Gillespie, B. Sc. in Edu.....	Columbus
Susanne Martha Koehler, B. A., B. Sc. in Edu.....	Columbus
Margery May Lautermische, B. S. in Agr. (University of Tennessee).....	Chattanooga, Tenn.
Maryan Piotr Matuszak, A. B. (Lebanon Valley College).....	Hyde Park, Pa.
Dorothy Eleanor Palmer, B. A. (Antioch College).....	Brookline, Mass.
Prudence Stevens, B. Sc. in H. E.....	Geneva
Harold Edison Stewart, B. Sc. in Bus. Adm.....	Detroit, Mich.
Henry Howard Waters Summers, A. B. (Howard University); B. D. (Oberlin Graduate School of Theology).....	Wilberforce
(Fourteen candidates)	

## MASTER OF SCIENCE

Cheong Ying Chu, A. B. (Taylor University).....	Canton, China
Thomas Moore Felton, B. S. (Carnegie Institute of Technology).....	Pittsburgh, Pa.
Charles Wesley Hauck, B. Sc. in Ent.....	Columbus
Wen-Wei Huang, B. A.....	Canton, China
Mahlon Pancoast Nichols, B. Sc. in Agr.....	Leetonia
(Five candidates)	

## COLLEGE OF AGRICULTURE

Dean: ALFRED VIVIAN

## BACHELOR OF SCIENCE IN AGRICULTURE

Ferdinand Frederick Dicke.....	New Bremen
Harley McKinley Dixon.....	Swifts
Atherton Clark Gossard.....	Wooster
Russell Richey Innis.....	Pataskala
Samuel Paillet.....	Columbus
James Clarke Sanford.....	Stryker
Stanley Sherman Schroder.....	Pemberville
Homer Lewis Sechrist.....	West Salem
Lawrence William Smith.....	Chagrin Falls
Kenneth Gray Wertman.....	Stoutsville
Hildreth Heck Zehring.....	Germantown
Lawrence Albert Zimmer.....	Napoleon
(Twelve candidates)	

## BACHELOR OF SCIENCE IN HOME ECONOMICS

Sanna D'Shiel Black.....	Columbus
Lula Iloe Burt, B. A. (Ohio Wesleyan University).....	Cardington
Helen Ebert.....	Ashville
Mary Glenn, B. Sc. (Muskingum College).....	McConnellsville
Dorothy Louise Heald.....	Columbus
Joanna Barbara Menke.....	Greenville
Mary Briggs Morehead.....	Columbus
Florence Geraldine Price.....	Columbus



Hazel Margaret Strohm.....	Columbus
Mary Elizabeth Williams.....	Bowling Green

(Ten candidates)

## COLLEGE OF LIBERAL ARTS

Acting Dean: MARBURY BLADEN OGLE

## BACHELOR OF ARTS

Anna Jannette Bishop.....	Columbus
John Roth Crabbe.....	Columbus
Leonidas Paul Friend.....	DeGraff
Ethel Campbell Groundwater.....	Cleveland
Frank Errett Hamilton.....	Washington C. H.
Noel Frederick Hummel.....	Lancaster
Pauline Sophie Lehman (with honors).....	Columbus
Chih Min Li.....	Cheng-Chow, Honan, China
Mildred Lindsey.....	Mt. Victory
Margarite Mary Marinack.....	Columbus
Thaddeus Mosey.....	Steubenville
Edward Ferguson Murrell.....	Cleveland
William Henry Ogg.....	Carey
Virgil Davis Parish.....	Richwood
June Seyfert Pettay.....	Columbus
Constance Hopkins Purdy.....	Columbus
Eugene Clifford Rea.....	South Charleston
Marguerite Riel.....	Columbus
David Ramsey Riggs.....	Toledo
John William Simpson.....	Steubenville
Eva Elizabeth Smith.....	Worthington

(Twenty-one candidates)

## COLLEGE OF COMMERCE AND ADMINISTRATION

Acting Dean: WALTER CROTHERS WEIDLER

## BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

John Theron Corrodi.....	Columbus
Dominic Antonio DeFrancis.....	Cambridge
Marcus Donovan.....	Lima
Robert Fulton Hannum.....	Columbus
Naoichi Ishiguro.....	Tokio, Japan
John Francis Koch.....	Columbus
Bernard Leigh.....	Lakewood
Albert Alphonso Lindquist.....	Cuyahoga Falls
Chester Leland Lust.....	Columbus
Paul Mitchell.....	Lima
Abbie Jeannette Parsons.....	Cleveland
Donald Long Powell.....	Groveport
John Andrew Rush.....	Greenville
Alfred Christian Seager.....	Cleveland
Charles Louis Sharon.....	Cincinnati
Robert Holt Slemmons.....	Columbus
Edward Richard Stephens.....	Cincinnati
Roy Edward Swabby.....	Columbus

(Eighteen candidates)

## BACHELOR OF SCIENCE IN JOURNALISM

Warren Tokuo Doi.....	Los Angeles, Calif.
Frederick Lowell Syler.....	Sugar Creek

(Two candidates)

## THE OHIO STATE UNIVERSITY

## COLLEGE OF EDUCATION

Dean: GEORGE FREDERICK ARPS

## BACHELOR OF SCIENCE IN EDUCATION

Camille Joseph Botte.....	Toledo
Ruth Eleanor Bricker.....	Mt. Vernon
Evelyn Clutch Buerkel.....	Columbus
Ann Katherine Carr.....	Columbus
Grace Elizabeth Chevaux.....	Canton
Virginia Witten Currey.....	Thomas, W. Va.
Rosalia Clare Fischer.....	Columbus
David Allen Goodman, B. A.....	Columbus
Anne Mae Heacock.....	Columbus
Letha Pearl Headlee.....	Pataskala
Edward Aloysius Janning.....	Columbus
Constance Vivian Lepard.....	Attica
William Levenson.....	Cleveland
Mary Musgrave.....	Scranton, Pa.
Raymond White Osbourne.....	Columbus
Edith Murray Peck.....	Cleveland
Mildred Ann Reitz.....	Lakewood
Emily Belle Roe.....	Zanesville
Vera Marie Rudy.....	Linden Heights
Glenn Chauncey Russell.....	Columbus

(Twenty candidates)

## BACHELOR OF LANDSCAPE ARCHITECTURE

Edward St. Clair Zimmer.....	Cleveland
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(One candidate)

## COLLEGE OF ENGINEERING

Dean: EMBURY A. HITCHCOCK

## BACHELOR OF ARCHITECTURAL ENGINEERING

Raymond Addison Miller.....	Lebanon
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(One candidate)

## BACHELOR OF CERAMIC ENGINEERING

James Ralph Crandall.....	Elyria
John Henry Grady.....	St. Louis, Mo.
George Colton Irvine.....	Zanesville
William Herbert McKinney.....	Tiffin
Louis Edward Nordholt.....	Dayton
William Griffin Prince.....	Piqua
Herbert Milo Walker, B. A. (Amherst College).....	Fairlawn
Curtis Raymond Watters.....	Mt. Vernon
George Atkinson Wills.....	Washington, D. C.

(Nine candidates)

## BACHELOR OF CHEMICAL ENGINEERING

Edwin Franklin Nussdorfer.....	Uhrichsville
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(One candidate)

## BACHELOR OF CIVIL ENGINEERING

Roydon Earl Bishop.....	Dayton
Francisco Silverio Castrillo.....	Rio Piedras, P. R.
Herbert Louis Gens.....	Toledo
William Moore Morrow.....	Lakewood
Harold Arthur White.....	Hanover

(Five candidates)



BACHELOR OF ELECTRICAL ENGINEERING

Gordon Winston Bennett.....	Lisbon
Clairmont Donnelly Friday.....	Summerfield
Marvin Howard Grasser.....	Cleveland
Anastasio Jimenez Sideco (as of Class of 1926).....	San Isidro, P. I.
Harlan Beckett Wellman.....	Ashland, Ky.
(Five candidates)	

BACHELOR OF ENGINEERING IN MINING

Harley Clyde Lee.....	Bellville
(One candidate)	

COLLEGE OF LAW

Acting Dean: ALONZO H. TUTTLE

BACHELOR OF LAWS

Ralph Joseph Dowling.....	Columbus
Isser Wolfe Muskat, A. G. (Marshall College).....	Marietta
Sidney Oliver Shechter.....	Akron
(Three candidates)	

COLLEGE OF MEDICINE

Acting Dean: JOHN H. J. UPHAM

DOCTOR OF MEDICINE

Harris Schuyler Wendorf.....	Columbus
(One candidate)	

COLLEGE OF PHARMACY

Dean: CLAIR ALBERT DYE

BACHELOR OF SCIENCE IN PHARMACY

John Albert Bell, Jr.....	Cambridge
(One candidate)	

DECEMBER CONVOCATION—1927

College	Men	Women	Total
Graduate School .....	13	6	19
College of Agriculture.....	12	10	22
College of Liberal Arts.....	12	9	21
College of Commerce and Administration.....	19	1	20
College of Education.....	7	14	21
College of Engineering.....	22	..	22
College of Law.....	3	..	3
College of Medicine.....	1	..	1
College of Pharmacy.....	1	..	1
Total .....	90	40	130

WINTER QUARTER, 1928

GRADUATE SCHOOL

Dean: WILLIAM MCPHERSON

DOCTOR OF PHILOSOPHY

Edward Joseph Morgan, A. B., A. M. (St. Louis University).....	Cincinnati
James Elias Webster, B. Sc. in Agr.....	Norwich
(Two candidates)	

## MASTER OF ARTS

Helen Ruth Albrecht, B. A. (Ohio Wesleyan University).....	Columbus
Charles Dickens Giauque, A. B. (Oberlin College).....	Athens
Vernon Hazel Jones, B. Sc. in Edu.....	Columbus
Dorothy LaVerne Keller, A. B. (Capital University).....	Marion
Josephine Agnes Lowrie, B. Sc. in Bus. Adm.....	Columbus
James Edgar McNaughton, B. S. in Edu. (Ohio University).....	South Webster
Anna Corinne Marshall, B. S. (Denison University).....	Zanesville
Bernard Sterling Mason, A. B. (University of Michigan).....	Columbus
Jose Roberto Palomo, B. S. (Carnegie Institute of Technology).....	Columbus
James Glenn Ross, B. A.....	Sandusky
Clyde Maxwell Simon, B. A.....	Cygnnet
Dwight Lester Warrick, A. B. (Otterbein College).....	Montpelier
Verena Lois White, B. S. in Edu. (Ohio University).....	Lancaster

(Thirteen candidates)

## MASTER OF SCIENCE

Edgar Arneson, B. S. in Agr. (University of Wisconsin).....	Barneveld, Wis.
J. Cleve Carroll, B. S. (Wilmington College).....	Martinsville
Hsien-Ta Chien, B. S. (Iowa State College of Agriculture and Mechanic Arts).....	Peking, China
Francis Ralph Dreibelbis, B. S. in Agr. Chem. (Pennsylvania State College).....	Wooster
Otis Ellsworth Gahm, B. Sc. in Agr.....	Beaver
Robert Benson Gordon, B. Sc. in App. Optics.....	Columbus
Earl Kerlin Jackson, B. Sc. in Agr.....	Greenville
Austin Franklin Lehmann, A. B. (Bluffton College).....	Bluffton
Isaac Peter Lewis, B. Sc. in Hort.....	New Waterford
Ernest Randolph Wallace, B. S. in Edu. (Ohio University).....	Athens
Ernest Morris Waxbom, B. Ch. E.....	Columbus

(Eleven candidates)

## COLLEGE OF AGRICULTURE

Acting Dean: RAYMOND C. OSBURN

## BACHELOR OF SCIENCE IN AGRICULTURE

John Ritner Alter.....	Parnassus, Pa.
David Franklin Bent.....	Kokomo, Ind.
Francis Thomas Bowne.....	Fletcher
Joseph William Brosch.....	Cleveland
Lloyd Elmer Dinsmore.....	Osborne
Walter Jason Firestone.....	Middle Branch
Emerson Arthur Fisher.....	Wilmington
James Harold Florea.....	Columbus
Guy Albert Hummon.....	Ottawa
Charles Dilworth McGrew.....	Kent
Dwight McInturf.....	Pennsville
Lawrence Lynn Mountjoy.....	Chagrin Falls
George Harold Obrecht.....	Loudonville
Donald Charles Rinehart.....	Wapakoneta
Howard Bope Rowles.....	Pleasantville
Gerald Emory Ryerson.....	Havana
Ernest Earl Schweyer.....	Jeromeville
John Haas Sitterley.....	Canal Winchester
Ralph Baldwin Treat.....	Tallmadge
Paul Ray Tuttle.....	Novelty

(Twenty candidates)

## COLLEGE OF LIBERAL ARTS

Acting Dean: WILBUR HENRY SIEBERT

## BACHELOR OF ARTS

Raymond Gault Alexander.....	Ashland
Doloros Taylor Atkins.....	Cambridge



Morton Elliott Block.....	Dayton
Audrey Louise Bowers.....	Laurelville
Stella Martin Bowers.....	Westerville
Ellis Pratt Cope.....	Barton
George Frederic Copp.....	West Alexandria
Walter Thomas Davis.....	Columbus
Thomas Frederick Faulaber.....	Fostoria
Byron Lester Fox.....	Columbus
Harold Theodore Fullerton.....	Huntsville
Harold Wilbert Hanes.....	Sonora
Robert Joseph Hansel.....	Columbus
Anne Mae Heacock, B. Sc. in Edu.....	Columbus
John Francis Holfinger.....	Troy
Eula Elizabeth Howey.....	Toledo
John Harold King.....	Steubenville
Chuan Liu.....	Shantung, China
Ina Olleila Mae McCall.....	Columbus
Edward Menge.....	East Liverpool
William Donald Merry.....	Caldwell
Anna Carolyn Mills.....	East Cleveland
Nelvel Edward Murphy.....	Powell, Wyo.
Clarence Edgar Northup.....	McConnelsville
Hoyt Leon Sherman.....	Columbus
Mary Katherine Stevenson.....	Findlay
Samuel Unger.....	Cleveland
Solomon Frederick Whirl.....	Spencerville
Elton Carl Whitcomb.....	Wauseon
Hursh Reginald Yost, D. V. M.....	Somerset
Alvin Abraham Zurfluh.....	Lima

(Thirty-one candidates)

## COLLEGE OF COMMERCE AND ADMINISTRATION

Acting Dean: WALTER CROTHERS WEIDLER

## BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

George Caldwell Banning.....	Cincinnati
Elmer Lee Beeler.....	Hamilton
Robert Otis Boyer.....	Columbus
Roger Wellington Clouser.....	North Canton
Martha Eileen Collins.....	Lakewood
Howard William Dye.....	Akron
Mildred Catharine Hahn.....	Warsaw
Bernice Lucile Holt.....	Wintergreen
Karl Albert Kuntzmann.....	DeGraff
Sanford Harold Loeb.....	Cleveland Heights
James Keith Loudon.....	Columbus
Walter Donald McCloud.....	Irwin
Vernon Henry Miller.....	Warrensville
Tom Rogerson.....	Columbus
Fred Le Armond Rush.....	Cleveland
Mark Darrell Sanborn.....	Painesville
Sterling John Simpson.....	East Cleveland
William Edgar Stewart.....	Columbiana
Blaine Creston Strimple.....	Shiloh
Edwin Israel Suddleson.....	Akron
Ray Alton Tipple.....	Worthington

(Twenty-one candidates)

## BACHELOR OF SCIENCE IN JOURNALISM

Roy Edgar Dickey.....	Dresden
Isabel Anne McDonald.....	Washington, D. C.

Robert Earl Ryan.....	Cuyahoga Falls
Guy Walter Spring.....	Crooksville
(Four candidates)	

## COLLEGE OF EDUCATION

Dean: GEORGE FREDERICK ARPS

## BACHELOR OF SCIENCE IN EDUCATION

Alice Margaret Bremfoerder.....	Toledo
Elizabeth Johnanna Caslow.....	Canal Winchester
Clara Gertrude Eaton.....	Proctorville
Claire Ginter.....	Columbus
Mary Eloise Green.....	East Liberty
Richard Frederick Leitch.....	Columbus
Kenneth Ora Manthey.....	Columbus
Barbara Elizabeth Metz.....	Tiffin
Herbert Godfred Meyer.....	Cleveland
Fabio Posadas Quezada.....	Columbus
Robert Thomas Rogers.....	Philadelphia, Pa.
Elizabeth Sears.....	Woodfield
Rosemary Sears.....	Woodfield
Lotta Queen Walker.....	Columbus
Sara Jane Watts.....	Columbus
Mabel Helman Wilkins.....	Lakewood
(Sixteen candidates)	

## BACHELOR OF LANDSCAPE ARCHITECTURE

John York Savage.....	Columbus
(One Candidate)	

## COLLEGE OF ENGINEERING

Dean: EMBURY A. HITCHCOCK

## BACHELOR OF ARCHITECTURE

Thoburn Russell Ernest.....	Columbus
(One candidate)	

## BACHELOR OF CERAMIC ENGINEERING

Otis J. Everhart.....	Urbana
(One candidate)	

## BACHELOR OF CHEMICAL ENGINEERING

Bernhard William Lade.....	Bay Village
Dean Sterling Hubbell.....	Ravenna
(Two candidates)	

## BACHELOR OF CIVIL ENGINEERING

Robert Allen Borntrager.....	Columbus
Milton Hegler.....	Washington C. H.
Harry Heber Moseley.....	Orrville
Albert Sidney Porter, Jr.....	Lakewood
Addison Edward Richmond.....	Columbus
Hilarius Rolendus Van Oss.....	Ottoville
(Six candidates)	

## BACHELOR OF MECHANICAL ENGINEERING

Franklin Held Cover (as of the Class of 1919).....	Columbus
(One candidate)	



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## BACHELOR OF METALLURGICAL ENGINEERING

Arthur Philetis Watts.....Zanesville  
(One candidate)

## COLLEGE OF LAW

Dean: ALONZO H. TUTTLE

## BACHELOR OF LAWS

Paul Homer Chance, B. A.....Cuyahoga Falls  
Rhea Bliss Pettit.....Logan  
(Two candidates)

## COLLEGE OF MEDICINE

Dean: JOHN H. J. UPHAM

## DOCTOR OF MEDICINE

Ross Moore Gault, A. B. (Centre College).....Portsmouth  
Horen Mardiros Soghikian, A. B. (Berberian College, Constantinople);  
B. Sc. in Agr.....Columbus  
(Two candidates)

## COLLEGE OF PHARMACY

### PROFESSIONAL CERTIFICATE

Dean: CLAIR ALBERT DYE

## CERTIFICATE OF PHARMACEUTICAL CHEMIST

Broadus Witham Billeisen.....Columbus  
Cecil Winifeld Clark.....Columbus  
(Two candidates)

## MARCH CONVOCATION—1928

College	Men	Women	Total
Graduate School .....	20	6	26
College of Agriculture.....	20	..	20
College of Liberal Arts.....	23	8	31
College of Commerce and Administration.....	21	4	25
College of Education.....	6	11	17
College of Engineering.....	12	..	12
College of Law.....	1	1	2
College of Medicine.....	2	..	2
College of Pharmacy (Certificates).....	2	..	2
Totals .....	107	30	137

## SPRING QUARTER, 1928

## GRADUATE SCHOOL

Dean: WILLIAM McPHERSON

## DOCTOR OF PHILOSOPHY

Edgar Bennett Bloom, A. B. (Hiram College); M. Sc.....Garrettsville  
Edison Louis Bowers, A. B. (Heidelberg University); M. A.....Columbus  
Arthur Marshall Brant, B. Ch. E., M. Sc.....Columbus  
Wilson Forrest Brown, B. Ch. E., M. Sc.....Columbus  
Russell Edmund Davis, B. A.....Leesburg  
Linden Forest Edwards, B. A., M. Sc.....Champaign, Ill.  
Arthur Eldridge Focke, B. Met. E., M. Sc.....Columbus  
John Calhoun Hamlin, B. Sc. (Clemson Agricultural College); M. Sc.....Washington, D. C.

Preston Mayne Harris, A. B. (Wittenberg College); M. A.	Springfield
Winfield Walter Heckert, B. S. in Edu. (Miami University); M. A.	Oxford
William Best Hesseltine, B. A. (Washington and Lee University); M. A.	
(University of Virginia)	Columbus
Edgar Allan Holt, A. B. (Lincoln Memorial University); M. A.	
(University of Iowa)	Tazewell, Tenn.
Neale Frederick Howard, B. S., M. S. (University of Wisconsin)	Milwaukee, Wis.
William Hollow Husband, A. B. (University of Michigan); M. A.	Delaware
Kisaku Kitsuta, B. Sc. in Agr., M. Sc.	Yamanashiken, Japan
Harold Philip Klug, B. A., M. A.	Zanesville
Harriet Pratt Lattin, A. B. (Smith College); M. A.	Columbus
Kai-Ching Lu, Koga, kushi, Applied Chemistry (Meiji College of Technology);	
M. Sc.	Peking, China
Hugh Howard Miley, B. A., M. Sc.	Fayette
David Franklin Miller, A. B. (Wittenberg College) M. A.	Columbus
Ralph Lester Miller, B. Sc. in Agr., M. Sc.	Foster
Amalie Kraushaar Nelson, B. A., M. A. (The State University of Iowa)	Columbus
Henry William Olson, A. B., B. S. (Otterbein College) M. A.	Columbus
Edward Waldo Emerson Schear, A. B. (Otterbein College); A. M. (Columbia	
University)	Westerville
Jerry Hall Service, B. Sc. in E. E., E. E. (Rose Polytechnic Institute); M. Sc.	Washington, D. C.
Robert Ernest Smith, B. Sc. in Edu., M. A.	Columbus
Louis Agassiz Stearns, B. A. (Ohio Wesleyan University); M. Sc.	Holden, Mass.
Earl DeWitt Wilson, A. B. (Capital University); M. A.	Roseville
(Twenty-eight candidates)	

## MASTER OF ARTS

Agnes Agatha Amstutz, A. B. (Bluffton College)	Bluffton
Robert King Bantz, B. A. (Ohio Wesleyan University)	Barberton
Caroline Alta Beavers, B. A. (Ohio Wesleyan University)	Orient
Melvin Bengston, A. B. (Capital University)	Columbus
Pauline Delight Boyd, B. A.	Columbus
Harrison Shearer Brinser, B. Ped., M. Ped. (Millersville State Normal School)	Findlay
Helen Katherine Chew, A. B. (Ohio University)	Findlay
Stuart Peyton Cromer, A. B. (Wittenberg College)	Columbus
John Edwin Crooks, B. A.	Zanesville
Frank Cutshaw Croxton, B. A.	Columbus
Roy Gordon Davis, B. A. (University of Texas)	Austin, Tex.
Mildred Kathryn Dietsch, B. Sc. in Edu., B. A.	Findlay
Wilbur Clyde Dyer, M. E. in E. E., B. B. A. (Boston University)	Columbus
Jean Louise Elliott, B. A. (Wells College)	Columbus
Harold Winfield Emswiler, B. Sc. (Denison University)	Utica
Alexander William Erlen, B. Sc. in Edu.	Columbus
Ruby Jane Etter, A. B. (Oberlin College)	Greenville
Harold Strader Everhart, A. B. (DePauw University)	Westfield, Ill.
William Shauck Ferguson, B. Sc. in Agr.	Lexington
Edward Jerome Finan, B. E. E. (University of Dayton)	Nashport
Margaret Frances Gardner, A. B. (Western College for Women)	Columbus
Mary Pearle Gould, A. B. (University of West Virginia)	Williamstown, W. Va.
Harold Oscar Grauel, A. B. (Findlay College)	Findlay
Anna Maclay Green, B. A.	Columbus
Charles Buckner Green, B. A.	Columbus
Eric Theodore Griebbling, B. A.	Lakewood
Julia Griggs, B. A.	Columbus
Harold John Grimm, A. B. (Capital University)	Toledo
Noel Bryan Grinstead, B. S. in Edu. (Central Missouri State Teachers	
College)	Warrensburg, Mo.
Josephine Olive Hagerman, B. A. (Ohio Wesleyan University)	Des Moines, Ia.
Mary Philomena Hahn, A. B. (Trinity College)	Columbus
Arthur Wesley Hardy, B. Sc. (Washburn College)	Columbus
Irene Mae Harris, B. Sc. in Edu.	Columbus
Mary Ellen Howe, A. B. (Ohio University)	Troy
Alfred L. Hughes, B. S. in Edu. (Ohio University)	Athens



Lydia Anna Jahn, B. A.	Mantua
Grace Emily Jameson, B. A. (The College of Wooster)	Wooster
Henry Lee Jones, B. A. (Antioch College)	Yellow Springs
William Richard Kaufman, B. Sc. in Bus. Adm.	Cleveland
Hugh Espy Kelsey, B. A. (Muskingum College)	New Concord
Leah Lucinda Keyser, A. B. (Mount Union College)	Tippecanoe City
Jean Kirkpatrick, B. A.	Columbus
Alma Mater Leedom, Ph. B. (Heidelberg College)	Fostoria
Hilda Lenore Lehman, B. Sc. in Edu.	Columbus
Josephine Ardelle Manny, B. Sc. in Edu.	Columbus
Mary Russell Marksbury, B. A.	Columbus
Charles Bradfield Morrey, Jr., B. A.	Columbus
Lester Henry Munzenmayer, A. B. (Hanover College)	Marysville, Ind.
Garrett Stewart Nease, A. B., B. Music (Otterbein College)	Westerville
Sol David Ozer, B. A.	Youngstown
Charles Ernest Pauck, B. A.	St. Marys
Thomas Monroe Pitkin, A. B. (The Municipal University of Akron)	Tallmadge
David Stanley Prosser, B. A.	Miami, Fla.
Glen Eustace Rader, B. Sc. in Edu.	Columbus
Hector Eugene Ridgway, B. A. (Ohio Wesleyan University)	Springfield
John Christian Ringwald, A. B. (Miami University)	Hamilton
Gladys Amanda Ridsen, B. Sc. in Edu. (Bowling Green State Normal College)	Vermillion
Harry Wight Rogers, B. A.	Dayton
Charles August Sauer, B. A. (Ohio Wesleyan University)	Chillicothe
Jacob Edward Schaefer, B. A.	Columbus
Helen Florence Schick, B. A.	Columbus
Margaret Elizabeth Schueller, A. B. (Vassar College)	Columbus
Vesta Bahl Simmons, B. Sc. in Edu.	Columbus
Lawrence Hervey Skinner, B. A. (University of Florida)	Oxford
William Thomas Smith, Jr., B. A. (University of Virginia)	Wilmington, N. C.
Joseph William Sutliff, A. B. (Hiram College)	West Farmington
Luella Thompson Tidrick, B. A. (Tarkio College)	Mount Ayr, Ia.
Brian Earle Tomlinson, B. S. in Edu. (Kansas State Teachers' College of Emporia)	Grenola, Kan.
Grace Townsend, B. S. (Miami University)	Celina
Grace Elizabeth Tressel, B. S. in Edu. (Bowling Green State Normal College)	Fremont
Ruth Adams Van Zandt, B. A.	Columbus
Carl Dudley Varvel, B. Sc. in Bus. Adm.	Kenton
Margaret Cowling Weldon, B. A. (Mount Holyoke College)	Circleville
Betty Emelyn White, A. B. (Otterbein College)	Westerville
James Martis Whitsett, B. A. (University of Texas)	Weatherford, Tex.
Arthur Barthen Wilder, B. S. (Mount Union College)	Niles
John Clark Williams, B. A.	Whitehouse
Clifford Edwin Wolfe, B. Sc. in Edu.	East Liverpool
Paul Hudson Wood, A. B. (Asbury College)	Delaware
Isabelle Gibson Ziegler, B. Sc. in Edu.	Columbus
Roy Clinton Zook, A. B. (Wittenberg College)	Troy

(Eighty-one candidates)

## MASTER OF SCIENCE

Derwin Willoughby Ashcraft, D. V. M.	Columbus
John Francis Byrne, B. E. Physics	Columbus
Arthur Boyer Clark, A. B. (Miami University)	Dayton
Paul Francis Collins, B. Cer. E.	Columbus
Clarence Leroy Cook, B. S. in Edu. (Kent State Normal College)	Beach City
William Dye Cooper, B. Sc. in Agr.	Glenville, W. Va.
Llewelyn Archibald Cramer, B. Sc. in Agr.	Columbus
Clyde Avery Dennis, B. S. (The College of Wooster)	Bloomdale
Stanley Rawlings Detrick, B. S. in Chem. Engr. (Ohio Northern University)	Columbus
Yun-Hao Feng, B. S. (Peking National Teachers' College for Women)	Tsian, China
Earl William Ford, B. A. (Muskingum College)	Cambridge
Kermit Groves, B. A. (Muskingum College)	Cambridge
Dean Sterling Hubbell, B. Ch. E.	Ravenna
Lennie Young Lancaster, B. Sc. in Agr. (University of Kentucky)	Bowling Green, Ky.

Paul Nicholas Lehoczky, B. S. in Mech. Engr. (Case School of Applied Science).....	Cleveland
Georgene Greenwood Linn, B. Sc. in Dom. Sc.....	Columbus
Joseph Benjamin Littman, B. S. (Municipal University of Akron).....	Akron
Floyd Alonzo McClure, B. A., B. Sc. in Agr.....	Sidney
Walter C. McNelly, B. S. in Edu. (Miami University).....	Brookville
Chieh Ma, B. A.....	Honan, China
Ralph Blosser Neiswander, B. Sc. in Agr.....	Williamstown
Arnold Henry Nieman, B. S. (Capital University).....	Woodville
Hazelton Albanus Purvis, B. Sc. in Agr.....	Columbus
Elmer Frederick Schroeder, A. B. (Defiance College).....	Defiance
Bernard Harvey Shoemaker, A. B. (Hope College).....	Holland, Mich.
Everton Benson Smith, A. B. (Hiram College).....	North Fairfield
Whitney Bowman Stout, B. Sc. in Agr.....	Circleville
Millard Curtiss Swingle, B. A.....	Columbus
Thomas Owen Treharne, B. S. (Denison University).....	Dayton
Paul McCoy Wright, B. S. (Wheaton College).....	Wheaton, Ill.
Wei Yang, B. A.....	Shensi, China
(Thirty-one candidates)	

## CANDIDATES FOR TWO DEGREES

Marian Grey Barth.....	Toledo
Bachelor of Arts	
Bachelor of Science in Education	
Jack Maurice Bassichis.....	Cleveland
Bachelor of Arts	
Bachelor of Laws	
Ruth Florence Cohen.....	Columbus
Bachelor of Arts	
Bachelor of Laws	
Genevieve Sanborn Cook.....	Lakewood
Bachelor of Arts	
Bachelor of Science in Education	
Charles Oliver Dewey.....	Solon
Bachelor of Architecture	
Bachelor of Architectural Engineering	
Gaile Lawton Doster.....	Latty
Bachelor of Science	
Doctor of Medicine	
Dorothy Melissa Ebright.....	Columbus
Bachelor of Arts	
Bachelor of Science in Education	
Margretta Elaine Ervin.....	Columbus
Bachelor of Arts (with honors)	
Bachelor of Science in Education	
Lura Elizabeth Gordon.....	Armstrong's Mills
Bachelor of Science	
Doctor of Medicine	
Richard Cornwall Gosline.....	Toledo
Bachelor of Architecture	
Bachelor of Architectural Engineering	
Lola Sherman Hixon.....	Wapakoneta
Bachelor of Arts	
Bachelor of Science in Education	
Mary Augusta Kiefer.....	Columbus
Bachelor of Arts (with honors)	
Bachelor of Science in Education	
Frances Carol Kirkpatrick.....	Bellefontaine
Bachelor of Arts	
Bachelor of Science in Journalism	



Katherine Reese Kittle.....	Columbus
Bachelor of Arts	
Bachelor of Science in Education	
Ruth Elizabeth McClarren.....	Columbus
Bachelor of Arts	
Bachelor of Science in Education	
John Harrington Mitchell.....	Columbus
Bachelor of Arts	
Doctor of Medicine	
Blanche Barnes Montgomery.....	Columbus
Bachelor of Arts (with honors)	
Bachelor of Science in Education	
Robin Charles Obetz.....	Columbus
Bachelor of Science	
Doctor of Medicine	
Virginia Elizabeth Pearce.....	Cleveland
Bachelor of Arts	
Bachelor of Science in Education	
Grace Leona Pergler.....	Columbus
Bachelor of Arts	
Bachelor of Science in Education	
John Russell Peters.....	Worthington
Bachelor of Science	
Doctor of Medicine	
Sarah May Reamer.....	Columbus
Bachelor of Science in Home Economics	
Bachelor of Science in Education	
Percy William Tetlow.....	Columbus
Bachelor of Arts	
Bachelor of Laws	
Wayne Hall Threlkeld.....	Columbus
Bachelor of Arts	
Bachelor of Laws	
Rosalyn Wallach.....	Columbus
Bachelor of Arts	
Bachelor of Science in Education	
Frank Bertram Weinbaum.....	Cleveland
Bachelor of Science	
Doctor of Dental Surgery	
Norma Dorothy Wood.....	Columbus
Bachelor of Arts	
Bachelor of Science in Education	
Frances Cecilia Yager.....	Chillicothe
Bachelor of Arts (with honors)	
Bachelor of Science in Education	
(Twenty-eight candidates)	

## COLLEGE OF AGRICULTURE

Dean: ALFRED VIVIAN

## BACHELOR OF SCIENCE IN AGRICULTURE

Jesse Lee Amsbaugh.....	Sullivan
Wilfred Lapp Balo.....	Dresden
Robert William Barnes.....	Paulding
Leland Sanford Betz.....	Lodi
John Alfred Bilek.....	Twinsburg
Clarence Stephen Birkmeyer.....	Coldwater
Gilbert Eugene Burras.....	North Fairfield
Verne Durst Chamberlin.....	Cleveland

Harold John Deobald.....	Cleveland
Wayne Shantz Dunipace.....	Bowling Green
Lewis Watts Eakin.....	Lockbourne
John Herbert Ehle.....	Ansonia
Ralph Marion Gisler.....	Napoleon
Ralph Eugene Griffin.....	Lockwood
Howard Bernard Haskins.....	Bowling Green
Floyd Henderson.....	Cadiz
Clifford Darl Hoover.....	Bucyrus
Elmer Clark Horton.....	Bedford
Ray Berlin Hugus.....	Columbus
Charles Andrew Jeffers.....	Worthington
Maurice Carroll Johnston.....	Glendale
Homer Richard Kile.....	Caledonia
Charles Enos Knoop.....	Defiance
Charles Julius Kohankie.....	Painesville
Roy Nelson Lovett.....	Zanesfield
Shippley Newton McIntosh.....	Columbus
Horatio Clyde Mason.....	Coal Run
Ian Eric Morrison.....	Columbus
Paul Charles Oates.....	Dunkirk
James Lewis Penrod.....	Lewisburg
Ralph G. Pontius.....	Carey
Clinton Samuel Poston.....	Athens
Merrill Predmore.....	Kenton
Paul Flavious Pulse.....	Hillsboro
Ellis Thomas Reese.....	Alexandria
Hallie Paul Rinkes.....	St. Clairsville
Crosby Milton Rogers.....	Newark
Lester Marion Stone.....	Delaware
Thomas Scott Sutton.....	Hammondsville
Walter Edward Swope.....	Dresden
Warren Eugene Van Buren.....	Forest
Henry Frank Winter.....	Mentor
Wallace Eldon Wiseman.....	Gallia
George William Woerlein, Jr.....	Groveport
George Edward Wood.....	Northup
Melvin Ross Wright.....	New Lyme
Robert Earl Yoder.....	Wooster

(Forty-seven candidates)

## BACHELOR OF SCIENCE IN HOME ECONOMICS

Olga Ardine Arbogast.....	Reynoldsburg
Mariam Emma Bachtel.....	Canton
Josephine Clara Beatty.....	Cleveland
Mary Catherine Behymer.....	Amelia
Ethel Bickham.....	Clifton, La.
Ila Josephine Britton.....	Lynchburg
Anna Rebecca Bundy.....	Barnesville
Elizabeth May Calkins.....	Buffalo, N. Y.
Mary Agnes Cooper.....	Ostrander
Dorothy Ellen Dick.....	Columbus
Lydia Mae Elberfeld.....	Pomeroy
Frances Irene Ellison.....	Beverly
Hester English.....	Columbus
Harryette Loomis Firestone.....	Cambridge
Dorothy May Fitzgerald.....	Old Fort
Dorothy Ann Frerichs.....	Lakewood
Gladys Glenn.....	McConnelsville
Jane Evans Goodrich.....	Columbus
Margaret Frances Hafford.....	Fremont
Anna Laverne Harrison, B. S. in Edu. (Kent State Normal College).....	Painesville
Ruth Virginia Heer.....	Columbus



Elizabeth Hood.....	Columbus
Hazel Winifred Kaufman.....	Charleston, W. Va.
Grace Evelyn King.....	Hilliards
Allene Burr Kistler.....	Carroll
Marion Anne Lane.....	Marblehead
Bernice Florence Lincicome.....	Marietta
Mary Margaret Lippincott.....	Cadiz
Laura Lucille Love.....	Cadiz
Lucile Ludwig.....	Orient
Grace Thornley McBay.....	Columbus
Louise Ellenwood McGill.....	Belpre
Beth Marcille Mason.....	Lima
Dorothy Ruth Mitchell.....	Marion
Mary Catherine Nofzinger.....	Montpelier
Gertrude Elizabeth Potter.....	Worthington
*Sarah May Reamer.....	Columbus
Frances Sophia Rether.....	Columbus
Mildred Irene Rupert.....	Meadville, Pa.
Margery Elizabeth Rutledge.....	McConnelsville
Dorothy Opal Schenck.....	Baltimore
Edna Josephine Sebach.....	Zanesville
Genevieve Shaw.....	Columbus
Marie Elizabeth Slessman.....	Clyde
Annamae Smith.....	Pomeroy
Violetta V. Townsend.....	Hicksville
Hulda Marie Ungericht.....	Greenville
Dorothy Kern Waller.....	McDermott
Pauline Aleta Weaver.....	Columbus
Dorothea Elizabeth Whittus.....	Baltimore
Leona Edna Worth.....	Derby
Margaret Lois Wynkoop.....	Canal Winchester
Dorothea Kathryn Zorn.....	Columbus

(Fifty-three candidates)

## COLLEGE OF LIBERAL ARTS

Acting Dean: WILBUR HENRY SIEBERT

## BACHELOR OF ARTS

George Abrich.....	Providence, R. I.
Louis Ira Adelman.....	Cleveland
Bernice Anne Allen (with honors and with high distinction in Sociology).....	Kingston
Roy Edgar Appleman (with honors).....	Malta
Mary Alice Bales.....	Circleville
*Marian Grey Barth.....	Toledo
*Jack Maurice Bassichis.....	Cleveland
Irma Irene Beecher.....	Cleveland
Pauline Harriet Beekman.....	Wheeling, W. Va.
Morris Harry Belinky.....	Youngstown
Doris May Benner.....	Morristown, Pa.
Earl Lloyd Beougher.....	Columbus
Emmajane Berkheimer (with honors).....	Greenville
William Randolph Bigler.....	Columbus
Mary Helen Bittner.....	Sandusky
Robert Lee Blair.....	Mt. Vernon
Henrietta Francis Blank.....	Mt. Carmel, Ill.
Edythe Margaret Brief.....	Columbus
Mary Ruth Bright.....	Logan
Floyd Owen Brink.....	Columbus
Robert Hall Bruce.....	Columbus
Frederic Buchs.....	Alliance
Clarence Buckenmyer.....	Toledo

\* Two Degrees

Anne Elizabeth Burkart.....	Columbus
Mary Elizabeth Butcher.....	Danville, Ill.
Mary Bye.....	Columbus
Clemens George Cabala.....	Cleveland
Ralph Eugene Carhart.....	Marion
Esther Virginia Cartzadner.....	London
Helen Cox Cassidy.....	Toronto
Mary Mildred Christopher.....	Elizabeth, N. J.
Catherine Dignan Clifton.....	Columbus
James Russell Coffey.....	Creston
*Ruth Florence Cohen.....	Columbus
John Hoy Cole (with honors).....	Springfield
Ruth Collicott.....	Columbus
Mary Jeanette Converse.....	Columbus
*Genevieve Sanborn Cook.....	Lakewood
Gertrude Smith Cook.....	Columbus
Forrest Wilbert Creamer.....	Jeffersonville
Horace Stevenson Crihfield.....	Columbus
John Howard Cunningham.....	Columbus
Theodore Cutright.....	Lyndon
Raymond Eli Daily.....	Piketon
Emily Haskell Davis.....	Toledo
Herbert Clark Davis.....	Mansfield
Rachel Catherine Davis.....	Toledo
Emanuel Newton Deitz.....	Steubenville
Sue Krux DeLong.....	Crooksville
George Edward DeMar.....	Dayton
Michael Douglas.....	Medina
John Hyde Dunlap, Jr.....	Williamsport
*Dorothy Melissa Ebright.....	Columbus
Howard William Eck.....	Van Wert
Louise Elizabeth Eisenlohr.....	Columbus
Margaret Evans Elston (B. Sc. in Edu.).....	Columbus
Marion Hoyt Ely.....	Columbus
*Margretta Elaine Ervin (with honors).....	Columbus
Frances Marie Evans.....	Columbus
Juanita Alice Evans.....	Williamson, W. Va.
Violet Elizabeth Evans.....	Youngstown
Samuel Freifield (with honors).....	Steubenville
Vaughn Wickert Fry.....	Lima
James Marion Furgason.....	Columbus
Alfred Wolf Gans (with honors).....	Dayton
Clifford Eugene Garwick (with honors).....	Columbus
Mary Christine Gatewood.....	McConnelsville
Flora Barbara Gilsdorf.....	Columbus
Florence Catherine Gleason.....	Columbus
Paul Mitchell Glenn.....	Cleveland
Jack Isadore Goldfarb.....	Cleveland
Maxine Myrle Goldstein.....	Cleveland
Joy Turner Graham.....	Columbus
Pearle Estella Gray.....	Waterville
Sarah Merle Gray.....	Waterville
David Samuel Greenberg.....	Steubenville
Grace Fern Heck (with honors).....	St. Paris
Margaret Elisabeth Henneuse.....	Bucyrus
Isolde Ardinella Henninger (with honors).....	Columbus
John Henry Herrick (with honors).....	Twinsburg
Kathryn Jane Lazear Hess.....	Mt. Vernon
Theora Kathleen Hix.....	Bradentown, Fla.
*Lola Sherman Hixson.....	Wapakoneta
Martha Elizabeth Hodson (with honors).....	Piqua
Leo Eugene Holmes.....	Arlington

\*Two degrees



Virginia Jenness.....	Columbus
David Curtiss Johnson.....	Springfield
Dorothy Elizabeth Lee Jones.....	Columbus
*Mary Augusta Kiefer (with honors).....	Columbus
*Frances Carol Kirkpatrick.....	Bellefontaine
*Katherine Reese Kittle.....	Columbus
Elizabeth Doswell Knight.....	Buena Vista, Va.
Henri Landskroner.....	Cleveland
Arthur Lebowitz.....	Cleveland
Robert Thomas Leever.....	South Charleston
Charles Edwin Lehman.....	Columbus
James Nathan Lemon.....	Indianapolis, Ind.
Evelyn Lempereur.....	Utica
Emmert Carl Lentz.....	Dayton
Harry Herman Leuchtag.....	Cleveland
Ben Isadore Levine.....	Cleveland
Hall Lippincott.....	Columbus
Jean Mildred Lowry.....	Plain City
Isabel Francis Lurie.....	Columbus
Jean Katharine McCampbell.....	Columbus
Robert Frederick McCarron.....	Cleveland
*Ruth Elizabeth McClarren.....	Columbus
Betty Lee McCord.....	Columbus
Marie Inez McKnight.....	Columbus
Charles Russell McNeal.....	Blissfield
Stanford Leroy Magley.....	Basil
George Badgley Marshall.....	Columbus
Irene Josephine Marzetti.....	Columbus
David Warren Maurer.....	New Philadelphia
Jeannette Adelaide Miller.....	Columbus
Frederick James Milligan.....	Upper Sandusky
*John Harrington Mitchell.....	Columbus
*Blanche Barnes Montgomery (with honors and with high distinction in Zoology)....	Columbus
Robert Pittman Moore.....	Anderson, Ind.
Frank Clay Morgret.....	McClure
Gae Mildred Morton.....	Columbus
Katherine Mueller.....	Indianapolis, Ind.
Betty Gibson Munyan.....	Columbus
Jeanette Lee Newton.....	Columbus
Chester Nikodym.....	Cleveland
Clyde May Norcross.....	Columbus
Benson Lloyd Owens.....	Oak Hill
Samuel Norman Palevsky.....	Cleveland
Dorothy Frances Pasch.....	Toledo
Evelyn Esther Patton.....	Portsmouth
*Virginia Elizabeth Pearce.....	Cleveland
Ruth Elizabeth Penney (with honors).....	Columbus
*Grace Leona Pergler.....	Columbus
Elizabeth Stoney Perry.....	Columbus
Verne MacDougall Pettit (with honors).....	Gomer
Salome Kathleen Price.....	Columbus
William Landacre Pritchard.....	Columbus
Oscar Odd Raberding.....	Wapakoneta
Alice Elizabeth Rasor.....	Columbus
Clayton Ashley Rawson.....	Elyria
Arthur Lloyd Reber, Jr.....	Columbus
Charles Stephen Reynolds (with honors).....	Columbus
Herbert Frederick Ricard.....	Toledo
James Van Nostran Rice.....	Dayton
Frances Louise Romer.....	Columbus
Robert Hensler Ross.....	Bellevue
Mary Elizabeth Rowland.....	Cadiz

\*Two degrees

Priscilla Codner Sayre.....	Groveport
Ernest Schillhahn.....	Springfield
Catherine Elizabeth Scott.....	Akron
Katharine Maude Service.....	Mt. Vernon
Ting Ching Shih.....	Taiyuan, China
Erma Eleanor Shoop.....	Columbus
Henry Leo Shwartz.....	Lowellville
Harry Edward Sims.....	Columbus
Kathryn Ann Sinclair.....	Lorain
Morris Aaron Skop.....	Cleveland
Martha Ferguson Snodgrass.....	Columbus
Opal Mae Stahl.....	Ashland
Ethel May St. Clair.....	Columbus
Arthur Ferdinand Steiert.....	Upper Sandusky
Carl Stein (with honors).....	Cleveland
Violet Lucille Stody.....	Columbus
Audrey Clothilde Sweet.....	Columbus
Charles Lynn Terrel.....	De Graff
*Percy William Tetlow.....	Columbus
Beatrice Helen Thomas.....	Pleasantville
Dorothy Elizabeth Thomas.....	Columbus
John Ross Thomas.....	Columbus
*Wayne Hall Threlkeld.....	Columbus
Marion Cornelia Tibbetts.....	Columbus
Charlotte Minor Tomlinson.....	Columbus
Ruth Marian Tuttle.....	Kingsville
Jack Calvin Ullery.....	Bradford
Marie Louise Unger.....	Bucyrus
John Van Cleve.....	West Mansfield
*Rosalyn Wallach.....	Columbus
Thomas Patrick Wangler.....	Groveport
Marjorie Lucille Weiser.....	Marion
Alice Elizabeth Wells.....	Greenwich
John Everett Wenrick.....	Bradford
Francis Woody Werking.....	Port Gibson, Miss.
John Hull Whitecomb.....	Delaware
Margaret Wilber Williams.....	Glens Falls, N. Y.
William Dunn Wing.....	Columbus
John Homer Winters.....	Greenville
Irwin Isaac Wolf.....	Columbus
Giles Wolverton.....	Greenville
Janet Plater Wood.....	Columbus
*Norma Dorothy Wood.....	Columbus
Doris Jane Woods.....	Plain City
Orville Claire Woodyard.....	Columbus
Maytha Louise Worcester (with honors).....	Butler, Pa.
*Frances Cecilia Yager (with honors).....	Chillicothe
Hortense Leone Ziegler.....	Huntington, W. Va.

(One hundred and ninety-five candidates)

## BACHELOR OF SCIENCE

*Gaile Lawton Doster.....	Latoy
*Lura Elizabeth Gordon.....	Armstrong's Mills
Paul Croskey Grove.....	Cadia
Lambert Joseph Kerschgens.....	Toronto
Cornelius Charles Landen.....	Columbus
Howard Dillon Maxwell.....	Alliance
Roy Marion Meredith.....	Middlebourne, W. Va.
*Robin Charles Obetz.....	Columbus
*John Russell Peters.....	Worthington
Thomas Edwin Rardin.....	Columbus
Cyril Edward Savage.....	Cleveland

\*Two degrees



George Ira Scheetz.....	Coshocton
Chester Coleman Shinbach.....	Toledo
Francis Marion Stephens (with honors).....	Cincinnati
Herman Matthew Turk.....	Cleveland
*Frank Bertram Weinbaum.....	Cleveland

(Sixteen candidates)

## COLLEGE OF COMMERCE AND ADMINISTRATION

Acting Dean: WALTER CROTHERS WEIDLER

## BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

Mildred Elizabeth Abbott.....	Wadsworth
Harold Paul Alspaugh.....	Amanda
Katherine Backus.....	Columbus
Claudous Hiron Baker.....	Fletcher
John Sutphin Baker.....	Columbus
Leonard Sidney Becker.....	Cleveland
Robert Rodewald Bell.....	Columbus
Edward John Bennett.....	Columbus
Dean Edgar Bowen.....	Columbus
Harold Leslie Breiel.....	Chillicothe
Dallas Coverdale Brown.....	Institute, W. Va.
Dwight McKeye Brown.....	Cincinnati
Reuben Weymer Brown.....	Piqua
Henry Baker Brumback.....	Celina
Leon Franklin Charpiot.....	West Unity
Lawrence Elijah Clark.....	Columbus
Austin Clement Conaway.....	Wheeling, W. Va.
Arthur Shirley Coningsby.....	Newark, N. J.
Chester Adams Cowdrey.....	Cleveland
Harold Alman Davis.....	Malta
Merlin Archibald Du Bois.....	Columbus
Harold Herman Eigensee.....	Columbus
Harold Spring Elliott.....	Columbus
Walter Emmerling.....	Norwood
Harold Benjamin Epler.....	Marietta
Paul James Ervin.....	Jackson
Donavin Farber.....	Worthington
Allen Herbert Farquhar.....	Columbus
Rollin Harold Fiser.....	Cleveland
Robert Harold Fitzwater.....	Columbus
Benjamin Franklin Frank.....	Columbus
Marc Julius Frank.....	Zanesville
Charles Frankel.....	Lawrenceburg, Ind.
Otto Gammel.....	Cleveland
Leutelle DeVere Gardner.....	Columbus
John Philip Gibbs.....	Columbus
Helene Miriam Goldstein.....	Springfield, Mo.
Wayne Thomas Greenlee.....	Bellaire
Lurie Marian Grimm.....	Columbus
Eugene Winston Hall.....	East Palestine
William Kenneth Hall.....	Columbus
Mahlon Merle Harrod.....	Wapakoneta
Charles Murray Hebble.....	Terrace Park
Edwin Joseph Hill.....	Columbus
Robert George Hoerner.....	Dayton
Nelson Curtis Hollis.....	Columbus
Glen Merrill Hommel.....	Sandusky
Herman Alfred Jacoby.....	Cleveland
Richard Compton John.....	Greenville
Leland Dewitt Judkins.....	Ada

\*Two degrees

Richard James Kemp.....	Dayton
Charles Edward Klein.....	Bucyrus
Sidney Lester Klein.....	Cleveland
Lois Emily Kline.....	Akron
Hsi Lin Kuan.....	Shanghai, China
Ralph Leonard Loker.....	Dayton
John Densmore Loomis.....	Columbus
Theodore Lorber.....	Zanesville
Baker Lybe.....	Canton
James Eugene McQuaid.....	Somerset
Fannie Lillian Margolin.....	Cleveland
Theodore Roosevelt Meyer.....	Cleveland
Harry Lamond Meyers.....	Hamilton
Leonard Manheimer Miller.....	Cincinnati
Philip Michael Miller.....	Columbus
Rowland Jerome Miller.....	Columbus
Jeremiah Charles Montgomery.....	Toledo
Franklin Given Moore.....	Columbus
Harry George Mumm.....	Columbus
Robert Carroll Murray.....	Youngstown
Neil Vincent Neiswander.....	Columbus
Curtis Frederick Neubauer.....	East Palestine
Alvin Lester Neuman.....	Chagrin Falls
Sterling R. Nichols.....	Lorain
Emil Frank Ondrey.....	Cleveland
Jeremiah Patrick O'Shaughnessy.....	Columbus
Geraldine Marion Owston.....	Columbus
Gordon Whipple Oyler.....	Hamilton
Charles Ward Petry.....	Columbus
Clarence Phillips, Jr.....	Columbus
Ned Wagner Phillips.....	Columbus
Russell Ward Phillips.....	Columbus
Charles Adam Pieper.....	Dayton
Charles Hamilton Rideout.....	Toledo
Robert Henry Ruhl.....	Marion
Valentine Robert Schaeffer.....	Cleveland
William Berna Schmink.....	Columbus
Byron LeComte Scott.....	Scioto
Wade Tozer Searles.....	Columbus
Clarence Edward Shaffer.....	Rockford
Francis Marion Shelton.....	Georgetown
Leonard M. Simon.....	Cleveland
Foster Leroy Smith.....	Lancaster
William Stanford Snyder.....	Columbus
Walter Jacob Sommer.....	Canton
Leonard Wales Staples.....	Dayton
Mary Lina Steinle.....	Delphos
John Arthur Stilwell.....	Martins Ferry
Arnold Frederick Tanner.....	Alliance
Richard Filler Thrall.....	Columbus
Paul Aloysius Tracy.....	Columbus
Willis Kelly Waterfield.....	Hamersville
Thomas Leroy Wheeler, Jr.....	Huntington, Ind.
Clarence Kaler Wildasinn.....	Dayton
Samuel Reese Willis.....	Canton
John Frederic Wildon.....	Cleveland
James Hay Wilson.....	Coshocton
Robert A. Wise.....	Bluffton
Earl Cones Wood.....	Richmond, Ind.
William Peter Yeager.....	Columbus
Joseph Albert Zettler.....	Columbus

(One hundred and eleven candidates)



## BACHELOR OF SCIENCE IN JOURNALISM

Helen Schloss Ackerman.....	Fort Wayne, Ind.
Irvin Herrick Dawson.....	Cleveland
Maurice William Denk.....	Gates Mill
Jacob Froug.....	Dayton
Anna Virginia Fugh.....	Pittsburgh, Pa.
Robert Wilmer Funk.....	Reynoldsburg
Robert Charles Hines.....	Van Wert
Elizabeth Mary Hogan.....	Cleveland
Franklin Ellsworth Hopkins.....	Columbus
*Frances Carol Kirkpatrick.....	Bellefontaine
Alice Leah Loeb.....	Columbus
Dorothy Louise Naddy.....	Columbus
Fred Homer Pfeiffer, Jr.....	Columbus
Beatrice Aeline Planson.....	Toledo
David Thomas Regan.....	Columbus
William George Frederick Schulz, Jr.....	Springfield
Charlotte Louise Sherwood.....	Columbus
Mary Fleming Short.....	Columbus
Dorothy Elizabeth Siedenburg.....	Portsmouth
George Aker Snodgrass.....	Barberton
Harold Alexander Stacy.....	Damascus
Donald Ross St. John.....	Dayton
Martha Mary Thoma.....	Piqua
Mary Martha Underwood.....	Columbus

(Twenty-four candidates)

## BACHELOR OF SCIENCE IN SOCIAL ADMINISTRATION

Helen Nida Brannan.....	Columbus
Tobey Frank.....	Columbus
Elizabeth Gertrude Hiett.....	Dayton
Minnie Elaine Kauffman.....	Cleveland
Edith Annette Margolis.....	Chicago, Ill.
Frances H. Mayer.....	Hamilton
Alice Loraine Reed.....	Columbus
Yasohachi Sakuma.....	Lakewood
Lillian Smith Spring.....	Columbus
Eunice Novella Taylor.....	Columbus
Marguerite Gladys Walker.....	Columbus
Dawn Elizabeth Wilson.....	Columbus
Evelyn Amanda Wray.....	Lancaster

(Thirteen candidates)

## COLLEGE OF DENTISTRY

Dean: HARRY M. SEMANS

## DOCTOR OF DENTAL SURGERY

Frank Alexich.....	Akron
Robert Burton Arthur.....	Columbus
Sydney Clark Beeson, Jr.....	Newton Falls
Joel Gehrhard Bernhard.....	Columbus
Louis Bernard Biales.....	Cleveland
Homer Austin Bliss.....	Ashtabula
Lowell Harrison Body.....	Danville
Chester Eugene Brady.....	Columbus
Robert Jerome Carabin.....	Columbus
Vincent James DeLuca.....	Steubenville
William Elbert Dennis.....	Cleveland
Harold Vincent Devor.....	Decatur, Ind.
Willard Llewellyn Durlfanger.....	Columbus

\*Two Degrees.

Jerome Benjamin Dvorak.....	Cleveland
Lester LeRoy Fisher, B. S. (Capital University).....	New Washington
Edward Ernest Frank.....	Cleveland
Frederick Alfred Fri.....	Creola
Marshall Nelson Gibboney.....	Georgetown
Willis Victor Goller, A. B. (Defiance College).....	Ney
Albert Karl Goulding.....	Columbus
Carl Jerome Graver.....	Lorain
Herbert Russell Hair.....	Conover
Robert Franklin Jerles.....	Byesville
Donald Kammerling.....	Carbon Hill
David M. Klein.....	Lorain
William Collister McCue.....	Lakewood
Robert Doner McFarland.....	Columbus
Richard Cotton Maddock.....	Portsmouth
Lloyd Russell Mallory.....	Youngstown
Bernard Frank Maras.....	Cleveland
Richard Harvey Millar.....	Mt. Clemens, Mich.
Arlington Mackall Overlander.....	East Palestine
Frederick Pandolfi.....	Farrell, Pa.
Glen D. Phillips.....	Trimble
Ralph Roose.....	Ottawa
George Washington Schwan, B. S. (Capital University).....	New Washington
Thomas Raymond Scott.....	Youngstown
Sam Jack Siegel.....	Toledo
Earl John Spencer.....	Lebanon
Raymond Louis Spohr.....	Columbus
Guy Russell Taylor.....	Glouster
William Edward Tripp.....	Portsmouth
Coral Valice Umbaugh.....	Springfield
* Frank Bertram Weinbaum.....	Cleveland
Eugene John Witzel.....	Lakewood
Dennis Marquand Wolfe.....	Columbus

(Forty-six candidates)

## COLLEGE OF EDUCATION

Acting Dean: BURDETTE ROSS BUCKINGHAM

## BACHELOR OF SCIENCE IN EDUCATION

Margaret Virginia Abbott.....	Columbus
Dorothy Mae Adams.....	Columbus
George Samuel Ager.....	Kirkersville
Carsten Charles Ahrens.....	Danbury
Esther Billy Allen.....	Columbus
Samuel Maurice Allgyer.....	West Liberty
Elsie Pauline Allwardt.....	Hamilton
Alberta Ann Anderson.....	Hamilton
Erma Roberta Anderson.....	Sunbury
Margaret Elizabeth Anderson.....	Columbus
Lucy Edna Arner.....	Salem
* Marian Grey Barth.....	Toledo
John Clayton Barton.....	Camp Chase
Vera Genevieve Bell.....	Dresden
Mildred Ruth Benson.....	Frazesburg
Mary Marsena Bird.....	Youngstown
Zelda Bogatin.....	Columbus
Catherine Regina Booker.....	Columbus
Janet Catherine Bower.....	Fort Wayne, Ind.
Florence Hazel Brown.....	Bethesda
Edith Roberta Bruehlman.....	Woodville
Hattie Mabel Brumme.....	Millersburg

\* Two degrees



Ruth Isabel Buck.....	Greenfield
Teresa Elizabeth Bullock.....	Louisville, Ky.
Eileen Burnside.....	Columbus
Leone Tirzah Bussert.....	Elida
Anna Marie Campana.....	Niles
Frances Ellen Carman.....	Painesville
Dorothy Grace Carr.....	Columbus
Edith Mae Carroll.....	Columbus
Winifred Lorinda Castle.....	Swanton
Mary Louise Chapin.....	Columbus
Evelyn Lillian Cline.....	Columbus
Susan Elizabeth Cochran.....	Hamilton
Ruby May Coldfish.....	Columbus
Grace Margaret Collet.....	Columbus
* Genevieve Sanborn Cook.....	Lakewood
Margaret Cook.....	Harveysburg
Elizabeth Coon.....	Piqua
Lora Mandetta Coverston.....	Columbus
Abbie Bessie Cucak.....	Mingo Junction
Margaret Christine Cullen.....	Lancaster
Ruth Mildred Curry.....	Plain City
William Thomas Davies.....	Youngstown
Pauline DeLuca.....	Bellevue
Mary-Theresa Veronica Dillon.....	Columbus
Nellie Maude Eastburn.....	Fort Collins, Colo.
* Dorothy Melissa Ebright.....	Columbus
Mildred Lillian Eells.....	Hillsboro, Ill.
* Margretta Elaine Ervin.....	Columbus
Florence Grace Everett.....	Gnadenhutten
Ruth Genevieve Everett.....	Huron
Margaret Sarah Faulk.....	East Liverpool
Mary Louise Fawcett.....	Salem
Martha Grace Flanigan.....	Beaver, Pa.
Margaret Louise Fleming.....	Columbus
Adrienne Alvena Forinash.....	Columbus
Byron Lester Fox, B. A.....	Columbus
Dorothy Mae Frey.....	Youngstown
Esther Martha Friedman.....	Lorain
Verie Martha Frye.....	Croton
Marian Noble Gates.....	Columbus
Rosemary Schumacher Gillen.....	Columbus
Anna Margaret Goda.....	Cleveland
Bronett Goldberg.....	Toledo
Mary Harriet Griffith.....	Columbus
Darwin Danford Griggs.....	Beverly
Virginia Gay Hamer.....	Columbus
Ethel Heaney Hamill.....	Cleveland
Regina Elizabeth Hanway.....	Columbus
Abbie Joyce Hatch.....	Medina
Lois Permelia Hazelton.....	Columbus
Faye Irene Hedges.....	Chillicothe
Genevieve Henry.....	Cleveland
Evelyn Mildred Hensel.....	Columbus
Rachel Elizabeth Herbert.....	Columbus
Lucile Eleanor Herr.....	Columbus
Mildred Jane Herr.....	Columbus
Glen Boyd Hiatt.....	Amanda
* Lola Sherman Hixson.....	Wapakoneta
Patricia Marie Hoban.....	Sidney
Ina Kathryn Hoffman.....	Worthington
Verne Burdette Hoffman.....	Arcadia
Hilma Amanda Holkko.....	Conneaut

\* Two degrees

Helen Mae Hollenback.....	Columbus
Lois Virginia Hott.....	Mt. Sterling
Martha Hudson.....	Columbus
Hazel Louise Hulett.....	Columbus
Glenna Adeline Huston.....	Columbus
Viola Davis Jefferson.....	Columbus
Paul David Jenkins.....	Columbus
Anne Edith Johnson.....	Kenton
Bertha Esther Josephson.....	Columbus
Ruth Aileen Kaiser.....	Columbus
Carl Joseph Thomas Karlovetz.....	Fremont
Frances Kent.....	Columbus
Martha Elizabeth Kidd.....	Columbus
* Mary Augusta Kiefer.....	Columbus
Margaret Letitia King.....	Columbus
* Katherine Reese Kittle.....	Columbus
Mary Louise Koch.....	Columbus
Vashti Isabel Kreglow.....	De Graff
Hortense Amelia Kremer.....	Woodsfield
Bernice Jeanette Lanpher.....	Leetonia
William Chester Lavelly.....	Columbus
Mary Lawrence.....	Columbus
Coe Edward Leach.....	Green Camp
Ruth Viola Lee.....	Columbus
Thelma Letitia Leive.....	Hamden
Dorothy Bea Levy.....	Knoxville, Tenn.
John Richard Littler.....	London
Wolcott Burdette Louis.....	Lakewood
* Ruth Elizabeth McClarren.....	Columbus
Jane Regina McDonald.....	Columbus
Dorothy Rulison Marmet.....	Columbus
John Orson Marsh.....	Columbus
Julia Esther Marshall.....	Columbus
Mildred Maralyn Mercer.....	Columbus
Charlotte Louise Michel.....	Columbus
Sara Millar.....	Ashville
Bernice Lois Miller.....	Canal Winchester
Lester John Miller.....	Pataskala
William Arthur Moler.....	Columbus
Margaret Elizabeth Monroe.....	Lockland
Viola Kathryn Monroe.....	Columbus
* Blanche Barnes Montgomery.....	Columbus
Eleanor Moore.....	Columbus
Margaret Morgan.....	Columbus
Marian Jane Office.....	Columbus
Margaret L. Ogan.....	McArthur
Merle Arden Oliphant.....	Belle Center
Esther Owen.....	Columbus
Esther Harriette Packard.....	Columbus
* Virginia Elizabeth Pearce.....	Cleveland
* Grace Leona Pergler.....	Columbus
Norma Mourine Pickett.....	Columbus
Nannie Lucretia Nichols Pieters.....	Columbus
Elizabeth Frances Pille.....	Massillon
Lola Louise Poland.....	Pleasant Valley
Sarah Gladys Polster.....	Columbus
Wilma Joyce Pool.....	Quincy
Mary Leota Prickett.....	Unionville Center
Dorothy B. Quayle.....	Wellsville
Mary Van Cleve Quill.....	Toledo
Doris Katherine Rains.....	Columbus
Fannie May Ramey.....	Springfield



Gertrude Ramler.....	Maumee
Vivian Gertrude Raudebaugh.....	Cellina
Evelyn Belle Ray.....	Toledo
* Sarah May Reamer.....	Columbus
Helena Jane Richardson.....	Columbus
Eleanor Louise Rittel.....	Columbus
Mabel Gertrude Rowles.....	Pleasantville
Mary Margaret Ruark.....	Columbus
Anna Arlene Rudy.....	Columbus
Katherine May Ruh.....	Columbus
Lillian Dorothy Russell.....	Cleveland
Nora Josephine Rust.....	Knightstown, Ind.
Dorothy Ann Sandles.....	Ottawa
Wilbur Coral Schick.....	Bluffton
Irma Marie Schneider.....	Lancaster
Ruth Louise Schwartz.....	Columbus
Florence Lenore Selker.....	Cleveland
Leoti Vernon Sheppard.....	Columbus
Dorothy Jane Smith.....	Arcanum
Dorothy Louise Smith.....	Wilmington
Philippine Smith.....	Columbus
Helen Louise Snider.....	Plain City
Marion Maxine Spurrier.....	Marysville
Leo Gordon Staley.....	Canajoharie, N. Y.
Mary Angelene Stanforth.....	Sunbury
Mary Hane Steeds.....	Akron
Griselda Alice Stevens.....	Columbus
Mary Elizabeth Stevens.....	Cambridge
Mae Lois Stevenson.....	Canal Winchester
Mabel Lucille Stout.....	Hillsboro
Helen Sarah Tenney.....	Canal Winchester
Nelle Conner Thompson.....	Columbus
Helen Tootle.....	Columbus
Dorothy Ruth Tressel.....	Fremont
Muriel Elizabeth Tripp.....	Holgate
Marion Greta Trotter.....	Adena
Iris Irene Troyer.....	Continental
Kathryn Lucile Truitt.....	Lilly Chapel
Gertrude Turner.....	Columbus
* Rosalyn Wallach.....	Columbus
Mabel Juanita Ward.....	Fredericktown, Pa.
Nell Caroline Warman.....	Wichita Falls, Tex.
Frederick Alexander Waterman.....	Greenfield
Lois Edna Weaver.....	Dayton
Wilma Ruth Weaver.....	Columbus
Irma Webster Webber.....	Columbus
Viola Dorothy Weil.....	Toledo
Valda Loretta Welker.....	Toledo
Evelyn June Whetsel.....	Columbus
Esther White.....	Columbus
Margaret Holt Wiant.....	Marietta
Wauneita Gladys Wolford.....	Coshocton
Ruth Wonderley.....	Columbus
* Norma Dorothy Wood.....	Columbus
Mary Elizabeth Wright.....	Toledo
* Frances Cecilia Yager.....	Chillicothe

(Two hundred and two candidates)

## BACHELOR OF LANDSCAPE ARCHITECTURE

Ewart Gladstone Carney.....	Columbus
Erwin Charles Zepp.....	Chardon

(Two candidates)

\* Two degrees

## THE OHIO STATE UNIVERSITY

## COLLEGE OF ENGINEERING

Dean: EMBURY A. HITCHCOCK

## PROFESSIONAL DEGREES

## CERAMIC ENGINEER

Robert J. Montgomery, Cer. Engr.....Toronto, Canada  
 Arthur Simeon Watts.....Columbus  
 (Two candidates)

## CIVIL ENGINEER

Philip Sander, B. C. E.....New York, N. Y.  
 (One candidate)

## ELECTRICAL ENGINEER

Maurice Rice Gowing, B. E. E.....Mansfield  
 Fred Lee Haushalter, B. E. E.....Akron  
 Ralph Garver Lockett, B. E. E.....Milwaukee, Wis.  
 Ray Smith Lowry, B. E. E.....Bedford, Ind.  
 Chauncey Edwin Mauk, B. E. E.....Los Angeles, Calif.  
 Karl Denver Price, B. E. E.....Columbus  
 Panfilo Trombetta, B. E. E.....Schenectady, N. Y.  
 (Seven candidates)

## MECHANICAL ENGINEER

Edmund Brush Neil, B. M. E.....Philadelphia, Pa.  
 Ezra Karlton Nicholson, B. M. E.....Charleston, W. Va.  
 Henry William Schaub, B. M. E.....Toledo  
 Horace Edward Wetzell, B. M. E.....Cleveland  
 (Four candidates)

## BACHELOR OF ARCHITECTURE

Thomas Edward Darby.....Columbus  
 \* Charles Oliver Dewey.....Solon  
 \* Richard Cornwall Gosline.....Toledo  
 William Norman Leviton.....Cleveland  
 Joseph Marion Lyle.....St. Clairsville  
 Jeanne Bradford Phillips.....Columbus  
 Harold Clinton Summersett.....Dayton  
 (Seven candidates)

## BACHELOR OF ARCHITECTURAL ENGINEERING

\* Charles Oliver Dewey.....Solon  
 Richard C. Farish.....South Vienna  
 \* Richard Cornwall Gosline.....Toledo  
 John Harry Puzenski.....Cleveland  
 John Camille Saunders.....Middletown  
 Albert Carl Tegeler.....Columbus  
 (Six candidates)

## BACHELOR OF CERAMIC ENGINEERING

Robert Harry Ellis Anwyl.....New Castle, Pa.  
 Chester Ronald Austin.....Bellefontaine  
 Frederick Wells Bernard.....Newark  
 Marion Kenneth Burr.....Jamestown  
 Nelson William Butterworth.....Columbus  
 John Heller, Jr.....Ewing, Ind.  
 Walter Valentine Henning.....Stryker  
 Henry Russell Houchins.....Columbus  
 Paul Kates.....Columbus

\* Two degrees



Sidney Webster McCann.....	Akron
Charles McMullen.....	Hillsboro
Edward Campbell Milliken.....	Gnadenhuetten
Robert Thomas Murphey.....	Zanesville
John Maxwell Neff.....	Columbus
John Franklin Shepherd.....	Norwood
George Henry Spencer-Strong.....	Sandusky
Drury Dickson Turner.....	Flint, Mich.
Edwin Kwong Wong.....	Columbus
David Christian Zimmer.....	Newcomerstown

(Nineteen candidates)

## BACHELOR OF CHEMICAL ENGINEERING

William Clare Barnett.....	Zanesville
Harry Edward Chambers.....	Soldier Summit, Utah
Carmen Harper Edwards.....	Findlay
Harold Beachamp Grimm.....	Columbus
Perry Oliver Holm.....	Omar
Edward Antonio Ureta.....	Santa Marta, Colombia, S. A.
Earl William Walke.....	Hamilton
Frederick Lawrence Way.....	Ashland
Harold Eugene Wright.....	Logan

(Nine candidates)

## BACHELOR OF CIVIL ENGINEERING

Cornelius Caleb Ackerman.....	Wauseon
Thomas Warren Brannan.....	Columbus
Henry Eugene Buerkel.....	Dover
Harry Stephens Cassill.....	Toledo
Lloyd Delbert Cummings.....	Cedarville
Walter Kenneth Farst.....	Barberton
Ralph Mayer Geiser.....	Lancaster
Russel Criblez Heckel.....	Columbus
John Jay Hermann, B. A.....	Zanesville
Howser Cutler Hunt.....	Richwood
Robert Bond Jennings (as of Class of 1925).....	Columbus
Warner David Johnson.....	Austin
Arnold Robert Jonas.....	Cleveland
Werner Fred Jung.....	Cleveland
Theodore Joseph Kauer.....	Sandusky
Elmer Louis Marshall.....	Cleveland
Thorold George Mebs (as of Class of 1927).....	Columbus
Alvin McGee Mock.....	Columbus
Riase Nemeth.....	Painesville
Milo Louis Pamley.....	Cleveland
Charles Malcolm Schoenlaub.....	Marion
Rolland Deaver Spring.....	Columbus
Roy Marcus Stack.....	Tiffin
George W. Studebaker.....	Greenville
Elmer Knowles Timby.....	Williamsfield

(Twenty-five candidates)

## BACHELOR OF ELECTRICAL ENGINEERING

Joseph Edwin Anderson.....	Columbus
Ralph Everett Balyeat.....	Toledo
Paul Franklin Bechberger.....	Norwalk
Stanley Joseph Blascak.....	Cortland
Kenneth Boger.....	Canton
Charles Patrick Carey.....	Columbus
Arthur Brinton Crawford.....	Woodsfield
Jacob Shirley Decker.....	Toledo
Adelbert Aaron Dershem.....	Gettysburg
Gail Franklin Divan.....	Martinsburg

Irwin Thomas Doty.....	Franklin Furnace
Lynn Sevier Dulaney.....	Cincinnati
Raymond Joseph Ebner.....	Canton
Myron Clarence Fasnacht.....	Massillon
John Armstrong Ferguson.....	Youngstown
Homer William Forschner.....	Norwalk
Harry George Gossman.....	Dayton
Edgar Grant.....	Columbus
John Henry Hackenberg.....	Columbus
Charles Roger Hall.....	Olmstead Falls
Walter Christopher Hauck.....	Columbus
Virgil Ocker Hull.....	Hillsboro
Jesse Elmer Jones.....	Gettysburg
Warren Clifton Leeka.....	Marion
Chauncey Cooper Linard.....	Bellaire
William Comly McConnell, Jr.....	Columbus
Ralph Rae MacLaughlin.....	Toledo
Willis Gerard Mallory.....	Columbus
George Edwin Melvin.....	Columbus
Wendell Oglesbee.....	London
Herbert McCormick Payne.....	Logan
Jack Douglas Ryder.....	Columbus
Weldon Brosius Sanger.....	Norwalk
John Henry Shuler.....	Lexington
Robert Miles Sly.....	Toledo
Emmett Allison Smith.....	East Cleveland
Walter Earl Theodore Smith.....	Columbus
Paul Jesse Snider.....	Plain City
Gailord Sprang.....	Perrysville
Louis Gray Stewart.....	Columbus
Arthur Charles Stocker.....	Columbus
Donald Valentine.....	Cleveland
Francis B. Valentine.....	Stoutsville
Myron Francis Whitney.....	Columbus
Ray Kenneth Windham.....	Rushsylvania
Kenneth Lay Woodman.....	Toledo
Anthony Virgil Wright.....	Wilmington

(Forty-seven candidates)

## BACHELOR OF ENGINEERING PHYSICS

John Stanley Valentine Allen.....	Painesville
Charles Frederick Lucks.....	Columbus
Louis William Murray.....	New Paris

(Three candidates)

## BACHELOR OF INDUSTRIAL ENGINEERING

Raymond Quentin Armington.....	Wickliffe
Victor Carl Peter.....	Cleveland
George Kenneth Shroyer.....	Anderson, Ind.

(Three candidates)

## BACHELOR OF MECHANICAL ENGINEERING

Charles Willey Allen.....	West Unity
Paul Luther Alspaugh.....	Canal Winchester
John Royal Balder.....	East Sparta
Irwin George Boehm.....	Columbus
Fred Harold Brown.....	Bellefontaine
Jess Harrison Davis.....	Gallipolis
Myron Williams Gable.....	Cambridge
Kemper Martel Hammell.....	Circleville
Orville Edward Henning.....	Toledo
Marion Wharton Hughes.....	Ada
Alfred Louis Kiewit.....	Harrison
Rudolph Lucas.....	Cleveland



Edred Thomas Marsh .....	Columbus
Jerald Milton Martena .....	Lowell
Harold Richards Miller .....	Norwalk
James Morkovski .....	Holland
Roy Ober .....	Springfield
John Erasmus Pendry .....	Wilmington
Robert Edwin Price .....	Springfield
John C. Reed .....	Wilmington
Erwin Alvin Schweinhagen .....	Jewell
Stephen Kleder Stimson .....	Columbus
Howard Frederick West .....	Columbus

(Twenty-three candidates)

## BACHELOR OF METALLURGICAL ENGINEERING

Clifford Evert Carlson .....	Ilion, N. Y.
Ralph Reeder Leo .....	East Cleveland
Donald Kirby Sloteman .....	Lock Haven, Pa.
Harold Wellington Wilson .....	Marion

(Four candidates)

## BACHELOR OF ENGINEERING IN MINING

Clarence Comly Beacham .....	Chesterville
Alan Hartman McClain .....	Washington, C. H.
John William Mercer .....	Springfield
Eugene Pilgrim Reed .....	Lima

(Four candidates)

## BACHELOR OF SCIENCE IN APPLIED OPTICS

Ralph Henry Donges, B. Sc. in Phar. ....	Xenia
Daniel George Hummel .....	Cleveland
Kenneth Harrington Kirkpatrick .....	Aberdeen, S. D.
Frederick Jacob Klein .....	Cincinnati
Gustus Loudenslager .....	Columbus
Janice Meredith Radebaugh .....	Columbus
Robert George Stayman .....	Columbus

(Seven candidates)

## COLLEGE OF LAW

Acting Dean: CLARENCE D. LAYLIN

## JURIS DOCTOR

William Eugene Downing, B.A. ....	Belle Center
William Christian Moore, Ph.B. (Denison University) .....	Columbus
Joseph Day Stecher, B.A. (Ohio Wesleyan University) .....	Upper Sandusky
Edmond Nitschke Yantes, B.A. ....	Columbus

(Four candidates)

## BACHELOR OF LAWS

Hugh Edward Addison .....	Columbus
Joseph Conkle Allen .....	New Lexington
Charles Frederick Babbs, Ph.B. (Denison University) .....	Newark
*Jack Maurice Bassichis .....	Cleveland
Byron Dwight Blair, A.B. (Ohio University) .....	Chillicothe
Geneva Clare Cessna .....	Kenton
*Ruth Florence Cohen .....	Columbus
James Bernard Danaher .....	St. Marys
William Wilson Davis .....	Columbus
Walter Edwin deBruin, B.A. ....	Columbus
Daniel Scofield Earhart .....	Columbus
William Malcolm Elder .....	South Charleston

\* Two Degrees

Everett Dean Farr.....	Boston, Mass.
William Fulton Fitzgibbon, A.B. (Princeton University).....	Newark
George Ellsworth Frater, B.A. (Ohio Wesleyan University).....	Upper Sandusky
Lowell Emerson Gay.....	Columbus
William Martin Giffen, B.A. (Muskingum College).....	New Concord
Philemon Stegner Githens, B.S. (University of Pittsburgh).....	Wheeling, W. Va.
Don Fessler Hamlin.....	Lakewood
Joseph Morton Harter.....	Columbus
Lawrence Francis Hartz.....	Cleveland
Rice Alfred Hershey, B.A.....	Copley
Winston Wallace Hill.....	Columbus
Harry Herbert Hoehn.....	Cleveland
Carva Crawford Jones, B.A.....	Columbus
Fritzie Caroline Kessler.....	Lancaster
James Lincoln Knapp, A.B. (Denison University).....	Zanesville
Leonard Silver Labowitz.....	Cleveland
Howard Bronson Lape.....	Wyoming
Gabriel Leibowitz, B.A.....	Cleveland
Harry Samuel Littman.....	Akron
Samuel David Luchs, B.A.....	Bellaire
Richard Lee McCann.....	Dayton
James Maxwell Maher.....	Columbus
Donald Knapp Merwin.....	Massillon
Rex Keith Miller.....	Dayton
Edward Aloysius Moriarty, B.Sc. in Bus. Adm.....	Columbus
Joseph Charles Nangle.....	Columbus
Carl Alexander Nicholas.....	Toledo
James Albert Nolan.....	Columbus
John Henry Pfeiffer.....	Kenton
Joseph Albert Provenza, B.A.....	Lorain
George Kenneth Ralston, Ph.B. (Kenyon College).....	Martins Ferry
Helene Otellia Schmidt, A.B. (Western College for Women).....	Middletown
Mary Pauline Seikel, B.A.....	Dover
James Sheehan.....	Cambridge
Louis Theodore Shulman.....	Dayton
Alexander William Smith.....	Akron
John Julian Snyder.....	Portsmouth
Frank Enright Stevens.....	Elyria
Charles Courtney Tanner.....	London
*Percy William Tetlow.....	Columbus
*Wayne Hall Threlkeld.....	Columbus
Charles William Warfield, A.B. (Ohio University).....	Buckhannon, W. Va.
Paul Burton Warnick.....	Columbus
Lloyd Alvin Watkins.....	Columbus
Daniel Stewart Webber.....	Columbus
Henry Clay White.....	Cleveland
Sylvan Harburger Wise.....	Lima

(Fifty-nine candidates)

## COLLEGE OF MEDICINE

Dean: JOHN H. J. UPHAM

## DOCTOR OF MEDICINE

Omar Copeland Amstutz, B.A.....	Pandora
Emerson Victor Arnold, B.A.....	Ironton
David Gallsworth Benjamin.....	Cleveland
John Yocum Bevan.....	Staubenville
John Charlton Bigony, B.A.....	Columbus
Homer Stanley Blaser.....	Upper Sandusky
Raymond Everett Boice, B.Sc.....	Middleport
Rollo Wyrick Bonnell, B.A.....	Cambridge
Helen Sidener Brogden, B.A.....	Lima



William Emerson Brogden, Jr., B.Sc.	Canton
Ralph Bernard Brown	Columbus
William Frederick Burger, Jr., A.B. (Ohio Northern University)	Kelleys Island
Orville Brennstuhl Burke, B.A.	Newark
George William Butz, B.A. (The University of the City of Toledo)	Maumee
John William Camp, B.A.	Cambridge
Roy Herman Clunk, B.S. (Mount Union College)	Lisbon
Walter Francis Coakley, A.B. (George Washington University)	Hamilton
John Norman Cross, B.Sc.	Columbus
Burgess Emerson DeMuth, B.S. (The University of the City of Toledo)	Toledo
*Galle Lawton Doster	Latty
Glenn Coe Dowell	Bellefontaine
James Mitchell Foley	Newark
Dwight James Fritz, B.Sc.	Lewisburg
Frank Alfred Fritz, B.A.	Barberton
Leland Hayward Fullerton	Columbus
Albert John Gerteis	Cleveland
Joseph Marvin Getrost, B.Sc.	Columbus
*Lura Elizabeth Gordon	Armstrong's Mills
Augustus Alonzo Hall, B.Sc.	Columbus
Eugene Ralph Hammersley	Port Washington
Gordon Horatio Hammill	Omaha, Neb.
Jacob Robert Heller, B.S. (West Virginia University)	Cleveland
Harley Elmer Henry	Cincinnati
Frank John Hodoski	Cleveland
John William Hurt, A.B. (Miami University)	Portsmouth
Paul Herdman Jones, B.Sc.	Bainbridge
Samuel Bartlett Kistler, B.Sc.	Pickerington
Leonard Anthony Kleinhenz, B.Sc. (University of Dayton)	St. Marys
Adelbert John Godfrey Kuehn, B.A. (Ohio Wesleyan University)	Toledo
Philip Collins Kyle, B.A. (Muskingum College)	Xenia
Kenneth Francis Lowry, B.Sc.	Westerville
John Gordon McCrimmon, B.Sc. in Agr. (University of Toronto); M.Sc.	Columbus
Victor Howard Mahan	Dayton
Paul Russell Maxwell, B.S. (Kenyon College)	Mansfield
Maurice Bernard Menke, A.B. (University of Michigan)	Greenville
Michael Matthew Miller, B.Sc.	Steubenville
*John Harrington Mitchell	Cloumbus
Robert Allan Moore, B.A., M.Sc.	Columbus
Sterling Wallace Obenour	Belle Center
*Robin Charles Obetz	Columbus
Charles William Pavey, Jr., B.Sc.	Columbus
*John Russell Peters	Worthington
Raymond Louis Pfeiffer, A.B. (Wittenberg College)	Columbus
Ora Walter Rapp	Piketon
John Repasky, B.Sc.	Byesville
Henry Howe Schwarzell, B.Sc.	Chillicothe
Francis Ward Shane, B.Sc.	Piqua
Howard Vern Sharp, B.Sc.	Doylestown
Clement Franklin St. John, B.Sc.	Jamestown
Herbert Ralph Stockwell, B.A.	Mechanicsburg
Joseph Edward Svoboda, B.A.	Cleveland
James Edwin Campbell Taylor, A.B. (Harvard University)	Columbus
George Cuthbert Tedrow	Crooksville
Marshall J. Thomas, B.A. (Ohio Wesleyan University)	Wellsville
Hugh Cochran Thompson, B.A., M.A.	Zanesville
Elmer Andrew Volzer, B.Sc.	Canton
Edith Helen Wallace, B.A.	Lawshe
Richard Homes Wallace, B.Sc.	Columbus
Isador Arthur Wallach, B.A. (Western Reserve University)	Cleveland
Karl Duren Way, B.A.	Kinsman
David Allen Wiener, B.A. (Western Reserve University)	Cleveland

George DeWitt Woodward, B.Sc.....	Dayton
Edward Andrew Yurick, B.Sc.....	Cleveland

(Seventy-three candidates)

## CERTIFICATE OF GRADUATE NURSE

Mary Elizabeth Barber.....	Mendon
Lovina Marie Blaney.....	Powell
Mildred Irene Brenner.....	Columbus
Marie Connell.....	Reynoldsburg
Helen Gertrude Fisher.....	Uhrichsville
Hettie Loretta Griffith.....	Columbus
Estelle Gundrum.....	Shelby
Mary Ruth Jones.....	Gallipolis
Alice McConkey.....	Cambridge
Edna Blanche Moore.....	Norwich
Inez Morris.....	Hilliards
Margaret Juanita Owen.....	Brilliant
Ella Myrtle Ringer.....	Cambridge
Ruth Elizabeth Roberts.....	Shelby
Hermagine Seidel.....	Shelby
Leah Marie Shelt.....	Fostoria
Cora Lucinda Strohm.....	Columbus
Frances Stuckey.....	Shelby
Helen Isabel Warner.....	Rome
Gail Washburn.....	Wadsworth
Wilhelmine Werdelmann.....	Cincinnati
Rena Annette White.....	Rockbridge
Anita Esther Williams.....	Amsterdam

(Twenty-three candidates)

## COLLEGE OF PHARMACY

Dean: CLAIR ALBERT DYE

## BACHELOR OF SCIENCE IN PHARMACY

Rebecca Elizabeth Bottigheimer.....	Columbus
Marshall E. D. Close.....	Bellevue
Spaulding Dickerson.....	Cincinnati
Emma Mary Diehl.....	Canton
Edward Emil Ehrlich.....	Cleveland
Miriam Olive Fowler.....	Columbus
Albert Roe Galloway, Ch.E. (Rensselaer Polytechnic Institute).....	Wallkill, N. Y.
Frederick Linck Geiler.....	Portsmouth
Ronald DeCoursey Goodsell.....	Marion
Barbara Elizabeth Gordon.....	Columbus
Theodore George Graetz.....	Bucyrus
George Judson Harris.....	Bucyrus
Morton Heiser.....	Cleveland
Robert Wallace Hunter.....	Cumberland
Glenn Edwin Kelly.....	Columbus
Richard McClarren.....	Columbus
Gladys Margaret Riecker.....	Lowell
John James Whyte.....	Dresden
Sol David Zell.....	Cleveland

(Nineteen candidates)

## CERTIFICATE OF PHARMACEUTICAL CHEMIST

Miller John Poppleton.....	Youngstown
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(One candidate)



## COLLEGE OF VETERINARY MEDICINE

Dean: DAVID STUART WHITE

## DOCTOR OF VETERINARY MEDICINE

Charles Henry Boyer.....	Detroit, Mich.
Carl Eddrie Chase, B.S. (University of New Hampshire).....	Londonderry, N. H.
John Leverton Cox.....	Willoughby
Theodore Clinton Fitzgerald.....	Clyde
Virgil Hester Fondren.....	Hornbeck, La.
George Dewey Grossman.....	Fredericktown
Ronald Lester Hectorne.....	Avon, Ill.
Edwin Perry Kleeman.....	Clarksville, Tenn.
Carl Libby Martin, B.S. (University of New Hampshire).....	Colebrook, N. H.
Joseph Ralph Robb.....	Cadiz
George Francis Scheetz.....	South Charleston
Owen Ellis Thomas.....	Pataskala
Arvo Theodore Thompson.....	Ely, Minn.

(Thirteen candidates)

## SUMMARY OF DEGREES AND CERTIFICATES

1927-1928

## Annual June Commencement—1928

<i>College</i>	<i>Men</i>	<i>Women</i>	<i>Total</i>
Graduate School.....	103	37	140
College of Agriculture.....	47	53	100
College of Liberal Arts.....	107	104	211
College of Commerce and Administration.....	116	32	148
College of Dentistry.....	46	0	46
College of Education.....	24	180	204
College of Engineering.....	169	2	171
College of Law.....	57	6	63
College of Medicine (degrees).....	70	3	...
(certificates).....	0	23	...
(total).....	...	...	96
College of Pharmacy (degrees).....	14	5	...
(certificates).....	1	0	...
(total).....	...	...	20
College of Veterinary Medicine.....	13	0	13
Total.....	767	445	1212
Candidates for degrees and certificates.....			1184
Candidates receiving two degrees.....			28
			1212

## August Convocation—1927

Graduate School.....	117
College of Agriculture.....	9
College of Liberal Arts.....	54
College of Commerce and Administration.....	37
College of Education.....	76
College of Engineering.....	7
College of Medicine.....	2
Degrees—Women.....	302
Degrees—Men.....	110
	192
Candidates for degrees.....	302
Candidates receiving two degrees.....	299
	3
	302

## December Convocation—1927

Graduate School .....	19
College of Agriculture.....	22
College of Liberal Arts.....	21
College of Commerce and Administration.....	20
College of Education.....	21
College of Engineering.....	22
College of Law.....	3
College of Medicine.....	1
College of Pharmacy.....	1

130

Degrees—Women .....	40
Degrees—Men .....	90

130

## March Convocation—1928

Graduate School .....	26
College of Agriculture.....	20
College of Liberal Arts.....	31
College of Commerce and Administration.....	25
College of Education.....	17
College of Engineering.....	12
College of Law.....	2
College of Medicine.....	2
College of Pharmacy (certificates).....	2

137

Degrees and Certificates—Women.....	30
Degrees and Certificates—Men.....	107

137

## Grand Total for the Year

Graduate School.....	302
College of Agriculture.....	151
College of Liberal Arts.....	317
College of Commerce and Administration.....	230
College of Dentistry.....	46
College of Education.....	318
College of Engineering.....	212
College of Law.....	63
College of Medicine (78 degrees) (23 certificates).....	101
College of Pharmacy (20 degrees) (3 certificates).....	23
College of Veterinary Medicine.....	13

1781

Degrees and certificates—Women.....	625
Degrees and certificates—Men.....	1156

1781

Candidates for degrees and certificates.....	1750
Candidates receiving two degrees.....	31

1781



LIST OF R. O. T. C. STUDENTS OF THE OHIO STATE UNIVERSITY  
COMMISSIONED IN THE OFFICERS RESERVE CORPS, AT  
THE CLOSE OF THE ACADEMIC YEAR

**Honor**

Geiler, Frederick Linek—Infantry  
Mason, Horatio Clyde—Infantry  
Glenn, Paul Mitchell—Field Artillery  
Reed, Eugene P.—Field Artillery  
Crawford, Arthur Brinton—Signal Corps

**Infantry**

Alspaugh, Paul Luther	Jeffers, Charles Andrew
Beard, Charles Edward	Jordan, William Bradford
Brown, Fred Harold	Kelly, Edward Mackin
Coleman, John Andrew	Lane, John Alexander
Creamer, Forrest Wilbert	Mavis, Olen Fred
Cunningham, John Howard	Miller, Glendon Ivory
Divney, Raymond Patrick	Mumm, Harry George
Donnel, Cloyce Vernon	Pfeiffer, Fred Homer
DuBois, Merlin A.	Rockaway, John D.
Feuer, Jesse Oris	Rinkes, Paul Hallie
Goad, Sidney Eugene	Smith, Walter Earl
Griswold, Francis Hopkinson	Smucker, David Emery
Hommel, Glen Merrill	Thrall, Richard Filler
Hunt, Howser Cutler	Wilson, John Larimer

**Field Artillery**

Bachelder, Gale William	Lucas, Rudolph
Baker, Claudous H.	Nemeth, Blase
Benadum, Malcolm Knight	Price, Robert Edwin
Billman, Charles Herbert	Puzenski, John Harry
Burr, Marion K.	Scherer, Paul Lincoln
Butterworth, William Nelson	Sims, Harry Edward
Caldwell, Arthur O.	Smith, Charles Paul
Clapper, Harry Donald	Steiert, Arthur F.
Eck, Howard W.	St. John, Donald Ross
King, William Richard	West, Howard Frederick
LeMay, Curtis Emerson	Windham, Ray Kenneth
LeMon, James Nathan	Zuber, John Milton
LeVake, Clifford Stanley	

**Signal Corps**

Andrews, Obed Leo	Linard, Chauncey Cooper
Dershem, Adelbert Aaron	Payne, Herbert McCormick
Doty, Irwin Thomas	Shuler, John Henry
Fleming, Arthur William	Snider, Jesse Paul
Forschner, Homer William	Stewart, Louis G.
Hayes, Kenneth Merrill	Valentine, Francis B.
Hauck, Walter Christopher	

**Medical Corps**

Bonnel, Rollo Wyrick	Mahan, Victor Howard
Burger, William F., Jr.	Schwarzell, Henry Howe
Camp, John William	St. John, Clement Franklin
Clunk, Roy Herman	Stockwell, Herbert Ralph
Fritz, Dwight James	Svoboda, Joseph Edward
Kistler, Samuel B.	Wallach, Isidor Arthur
Kyle, Philip Collins	Wiener, David Allen
Jones, Paul H.	Yurich, Edward Andrew

## Dental Corps

Alexich, Frank B.  
 Beeson, Sydney Clark, Jr.  
 Body, Lowell Harrison  
 Carabin, Robert Jerome  
 De Luca, Vincent James  
 Dennis, William E.  
 DeVor, Harold Vincent  
 Durflinger, Willard L.  
 Dvorak, Jerome Benjamin  
 Fisher, Lester LeRoy  
 Frank, Edward Ernest  
 Fri, Frederick Alfred  
 Jerles, Robert F.  
 Jones, D. Nelson

Kammerling, Donald  
 McFarland, Robert Doner  
 Maddock, Richard Cotton  
 Maras, Bernard F.  
 Oldham, Rowland Edwin  
 Phillips, Glen D.  
 Schwan, George W.  
 Scott, Thomas Raymond  
 Spohr, Raymond Louis  
 Tripp, William Edward  
 Umbaugh, Coral V.  
 Witzel, Eugene John  
 Wolfe, Dennis Marquand

## Veterinary Corps

Chase, Carl Eddrie  
 Cox, John Leverton  
 Fondren, Virgil Hester  
 Grossman, George Dewey  
 Hectorne, Ronald Lester  
 Kleeman, Edwin Perry

Martin, Carl Libby  
 Robb, Joseph Ralph  
 Scheetz, George Francis  
 Thomas, Owen Ellis  
 Thompson, Arvo Theodore

## Total Number to be Commissioned

Infantry .....	30
Field Artillery .....	27
Signal Corps .....	14
Medical Corps .....	16
Dental Corps .....	27
Veterinary Corps .....	11
	<hr/>
	125



# APPENDIX IX

## RELIGIOUS CENSUS OF STUDENTS—YEAR 1927-1928

A. M. E. ....	36	Methodist Protestant .....	44
Baptist .....	406	Southern Methodist .....	3
Brethren .....	27	Moravian .....	12
Catholic .....	822	Mormon (Latter Day Saints) .....	8
Christian .....	212	Nazarene .....	4
Christian Science .....	93	Presbyterian .....	1,432
Christian Union .....	5	Progressive Brethren .....	1
Church of Christ .....	271	Protestant .....	68
Church of God .....	17	Protestant Episcopal .....	7
Community .....	80	Reformed .....	182
Congregational .....	381	Dutch Reformed .....	1
Disciple .....	39	German Reformed .....	3
Episcopal .....	381	Reformed Jewish .....	14
Evangelical .....	118	Russian Orthodox .....	0
Evangelical Protestant .....	11	Saints .....	1
Friends .....	50	Seventh Day Adventist .....	10
Gospel .....	3	Spiritualist .....	1
Greek Orthodox .....	9	Swedish Mission .....	1
Hindu .....	1	Theosophical Society .....	1
House of Jacob .....	4	Union .....	3
Independent Protestant .....	11	Unitarian .....	20
International Bible Student .....	6	United Brethren .....	213
Jewish .....	768	United Evangelical .....	1
Lutheran .....	642	United Presbyterian .....	113
Mennonite .....	13	Universalist .....	19
Methodist Episcopal .....	3,046	Zionist .....	1
Free Methodist .....	2	None given .....	1,604
Independent Methodist .....	1		
		Total .....	11,222

## OCCUPATIONAL CENSUS OF PARENTS AND GUARDIANS—YEAR 1927-1928

Accountants, Clerks, Bookkeepers .....	196	Jobbers .....	8
Advertising .....	21	Junk Dealers .....	17
Apiarist .....	1	Laborers .....	110
Architects, Draftsmen .....	18	Laundrymen .....	6
Army and Navy .....	14	Lecturers .....	3
Artisans .....	55	Liverymen and Teamsters .....	7
Attorneys, Judges, and Statesmen.....	198	Livestock Dealers .....	21
Auctioneers .....	2	Machinists .....	126
Authors .....	1	Manufacturers .....	158
Automobile Dealers .....	39	Mechanics .....	92
Bakers and Confectioners .....	35	Merchants .....	646
Bankers .....	104	Millers .....	40
Barbers .....	48	Mine Operators and Superintendents...	42
Blacksmiths .....	21	Missionaries .....	3
Bookbinders .....	5	Musicians and Artists .....	19
Breeders of Silver Foxes .....	1	Oil Producers, Dealers, and Employees..	57
Brokers .....	46	Opticians and Optometrists .....	19
Business .....	94	Osteopaths and Chiropractors .....	7
Business Executives, Managers, Superin-		Pawn Brokers .....	1
tendents, Etc.....	484	Photographers .....	16
Butchers and Meat Dealers .....	40	Physicians, Surgeons, and Nurses.....	222
Carpenters and Cabinetmakers.....	153	Piano Tuners .....	2
Chauffeurs .....	3	Plasterers .....	7
Chefs, Cooks, Caterers .....	13	Plumbers .....	24
Clergymen .....	163	Politicians .....	3
Chemists .....	18	Potters .....	20
Coal and Ice .....	45	Poultrymen .....	10
Contractors and Builders .....	293	Printers and Publishers .....	79
Dairymen .....	34	Quarrymen .....	4
Decorators and Painters .....	56	Railway, Lake, and Street Railway Of-	
Dentists .....	76	ficials and Employees .....	374
Designers .....	5	Real Estate .....	237
Detectives .....	1	Retired .....	323
Divers .....	1	Riding Master .....	1
Druggists and Pharmacists .....	64	Rubber Workers .....	17
Dry Cleaners .....	15	Salesmen .....	410
Editors and Newspapermen .....	30	School Officials, Professors, and Super-	
Electricians .....	51	intendents .....	211
Engineers (Professional) .....	151	Scientists .....	2
Engineers (Stationary) .....	89	Shoeworkers and Repairers .....	20
Farmers and Ranchers .....	1,305	Social Workers .....	8
Filling Station Operators .....	8	Students .....	3
Fishermen .....	2	Surveyors .....	2
Florists, Gardeners, Nurserymen.....	75	Tailors and Seamstresses.....	67
Foremen .....	113	Telegraph and Telephone Officials and	
Furriers .....	3	Operators .....	47
Garage, Repairing, and Supplies.....	37	Theatre .....	8
Gas and Fuel .....	4	Tinners .....	12
Glassworkers .....	6	Toolmakers .....	21
Golf .....	3	Tour Conductor .....	1
Government: State, County, and		Transfer and Storage .....	19
Municipal .....	344	Undertakers .....	24
Grain, Hay, Lumber .....	79	Upholsterers .....	3
Grocers .....	120	Veterinarians .....	24
Hotel and Restaurant Owners and		Watchmen .....	5
Employees .....	44	Well Drillers .....	1
Importers .....	1	Wholesale .....	34
Inspectors .....	23	Y. M. C. A., Y. W. C. A. Workers, and	
Insurance .....	154	other Religious Workers .....	3
Interior Decorators .....	15	Mothers with no occupations.....	867
Iron and Steel Workers and Molders....	111	None given, or deceased.....	1,508
Janitors .....	24		
Jewelers .....	41	Total.....	11,222



## SUMMARY

## ENROLLMENT BY STATES AND COUNTRIES—YEAR 1927-1928

Alabama .....	4	Mexico .....	1
Argentine Republic .....	4	Michigan .....	20
Arizona .....	2	Minnesota .....	10
Arkansas .....	4	Mississippi .....	6
Austria .....	2	Missouri .....	7
Bermuda .....	1	Nebraska .....	5
California .....	12	New Hampshire .....	5
Canada .....	4	New Jersey .....	49
Balboa Heights, Canal Zone .....	4	New Mexico .....	1
China .....	25	New York .....	47
Columbia, S. A. ....	1	North Carolina .....	8
Colorado .....	5	North Dakota .....	2
Connecticut .....	7	Ohio .....	10,442
Cuba .....	1	Oklahoma .....	6
District of Columbia .....	7	Oregon .....	2
Dominican Republic .....	3	Pennsylvania .....	145
Egypt .....	1	Peru .....	1
Florida .....	11	Philippine Islands .....	10
Georgia .....	2	Porto Rico .....	3
Hawaii .....	5	Rhode Island .....	1
Idaho .....	1	South Carolina .....	4
Illinois .....	33	South Dakota .....	4
India .....	3	Tennessee .....	10
Indiana .....	73	Texas .....	14
Iowa .....	16	Turkey .....	1
Japan .....	4	Utah .....	2
Kansas .....	5	Vermont .....	7
Kentucky .....	22	Virginia .....	11
Korea .....	1	Washington .....	6
Louisiana .....	4	West Virginia .....	93
Maine .....	1	Wisconsin .....	7
Maryland .....	5	Wyoming .....	1
Massachusetts .....	18		
Total .....			11,222

## SUMMARY

## ENROLLMENT IN OHIO BY COUNTIES—YEAR 1927-1928

Adams .....	16	Hamilton .....	155	Noble .....	25
Allen .....	77	Hancock .....	54	Ottawa .....	35
Ashland .....	44	Hardin .....	63	Paulding .....	22
Ashtabula .....	81	Harrison .....	33	Perry .....	69
Athens .....	32	Henry .....	15	Pickaway .....	72
Auglaize .....	60	Highland .....	41	Pike .....	13
Belmont .....	108	Hocking .....	39	Portage .....	55
Brown .....	16	Holmes .....	22	Preble .....	30
Butler .....	93	Huron .....	50	Putnam .....	40
Carroll .....	7	Jackson .....	38	Richland .....	57
Champaign .....	37	Jefferson .....	108	Ross .....	72
Clark .....	98	Knox .....	60	Sandusky .....	55
Clermont .....	24	Lake .....	40	Scioto .....	66
Clinton .....	42	Lawrence .....	29	Seneca .....	54
Columbiana .....	84	Licking .....	129	Shelby .....	29
Coshocton .....	38	Logan .....	67	Stark .....	172
Crawford .....	55	Lorain .....	115	Summit .....	148
Cuyahoga .....	1,092	Lucas .....	216	Trumbull .....	86
Darke .....	67	Madison .....	80	Tuscarawas .....	66
Defiance .....	18	Mahoning .....	187	Union .....	52
Delaware .....	96	Marion .....	100	Van Wert .....	24
Erie .....	73	Medina .....	29	Vinton .....	13
Fairfield .....	134	Meigs .....	29	Warren .....	22
Fayette .....	31	Mercer .....	35	Washington .....	68
Franklin .....	3,920	Miami .....	68	Wayne .....	92
Fulton .....	44	Monroe .....	33	Williams .....	46
Gallia .....	13	Montgomery .....	289	Wood .....	53
Geauga .....	36	Morgan .....	46	Wyandot .....	40
Greene .....	56	Morrow .....	17		
Guernsey .....	57	Muskingum .....	130	Total .....	10,442





